

#10

PAGE: 1

DATE: 02/04/94
TIME: 11:55:51RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A

INPUT SET: S1376.raw

ENTERED

1 SEQUENCE LISTING
2

3 (1) General Information:

4 (i) APPLICANT: Artavanis-Tsakonas, S. et al.

5 (ii) TITLE OF INVENTION: Therapeutic And Diagnostic Methods
6 And Compositions Based On Notch Proteins And
7 Nucleic Acids

8 (iii) NUMBER OF SEQUENCES: 21

9 (iv) CORRESPONDENCE ADDRESS:

10 (A) ADDRESSEE: Pennie & Edmonds
11 (B) STREET: 1155 Avenue of the Americas
12 (C) CITY: New York
13 (D) STATE: New York
14 (E) COUNTRY: U.S.A.
15 (F) ZIP: 10036

16 (v) COMPUTER READABLE FORM:

17 (A) MEDIUM TYPE: Floppy disk
18 (B) COMPUTER: IBM PC compatible
19 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
20 (D) SOFTWARE: PatentIn Release #1.0, Version #1.25

21 (vi) CURRENT APPLICATION DATA:

22 (A) APPLICATION NUMBER: 08/083,590
23 (B) FILING DATE: 25-JUN-1993
24 (C) CLASSIFICATION:

25 (viii) ATTORNEY/AGENT INFORMATION:

26 (A) NAME: Misrock, S. Leslie
27 (B) REGISTRATION NUMBER: 18,872
28 (C) REFERENCE/DOCKET NUMBER: 7326-015

29 (ix) TELECOMMUNICATION INFORMATION:

30 (A) TELEPHONE: 212 790-9090
31 (B) TELEFAX: 212 8698864/9741
32 (C) TELEX: 66141 PENNIE

33 (2) INFORMATION FOR SEQ ID NO:1:

34 (i) SEQUENCE CHARACTERISTICS:

35 (A) LENGTH: 2892 base pairs
36 (B) TYPE: nucleic acid
37 (C) STRANDEDNESS: double
38 (D) TOPOLOGY: unknown39
40
41
42
43
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45
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49
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51

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:55:56

INPUT SET: S1376.raw

52 (ii) MOLECULE TYPE: cDNA
53
54
55 (ix) FEATURE:
56 (A) NAME/KEY: CDS
57 (B) LOCATION: 142..2640
58
59
60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
61
62 GAATTCCGGAG GAATTATTCA AACATATAAC ACAATAAAC ATTGAGTAG TTGCCGCACA 60
63
64 CACACACACA CACAGCCCGT GGATTATTAC ACTAAAAGCG ACACCTCAATC CAAAAAAATCA 120
65
66 GCAACAAAAAA CATCAATAAA C ATG CAT TGG ATT AAA TGT TTA TTA ACA GCA 171
67 Met His Trp Ile Lys Cys Leu Leu Thr Ala
68 1 5 10
69
70 TTC ATT TGC TTC ACA GTC ATC GTG CAG GTT CAC AGT TCC GGC AGC TTT 219
71 Phe Ile Cys Phe Thr Val Ile Val Gln Val His Ser Ser Gly Ser Phe
72 15 20 25
73
74 GAG TTG CGC CTG AAG TAC TTC AGC AAC GAT CAC GGG CGG GAC AAC GAG 267
75 Glu Leu Arg Leu Lys Tyr Phe Ser Asn Asp His Gly Arg Asp Asn Glu
76 30 35 40
77
78 GGT CGC TGC TGC AGC GGG GAG TCG GAC GGA GCG ACG GGC AAG TGC CTG 315
79 Gly Arg Cys Cys Ser Gly Glu Ser Asp Gly Ala Thr Gly Lys Cys Leu
80 45 50 55
81
82 GGC AGC TGC AAG ACG CGG TTT CGC GTC TGC CTA AAG CAC TAC CAG GCC 363
83 Gly Ser Cys Lys Thr Arg Phe Arg Val Cys Leu Lys His Tyr Gln Ala
84 60 65 70
85
86 ACC ATC GAC ACC ACC TCC CAG TGC ACC TAC GGG GAC GTG ATC ACG CCC 411
87 Thr Ile Asp Thr Thr Ser Gln Cys Thr Tyr Gly Asp Val Ile Thr Pro
88 75 80 85 90
89
90 ATT CTC GGC GAG AAC TCG GTC AAT CTG ACC GAC GCC CAG CGC TTC CAG 459
91 Ile Leu Gly Glu Asn Ser Val Asn Leu Thr Asp Ala Gln Arg Phe Gln
92 95 100 105
93
94 AAC AAG GGC TTC ACG AAT CCC ATC CAG TTC CCC TTC TCG TTC TCA TGG 507
95 Asn Lys Gly Phe Thr Asn Pro Ile Gln Phe Pro Phe Ser Phe Ser Trp
96 110 115 120
97
98 CCG GGT ACC TTC TCG CTG ATC GTC GAG GCC TGG CAT GAT ACG AAC AAT 555
99 Pro Gly Thr Phe Ser Leu Ile Val Glu Ala Trp His Asp Thr Asn Asn
100 125 130 135
101
102 AGC GGC AAT GCG CGA ACC AAC AAG CTC CTC ATC CAG CGA CTC TTG GTG 603

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

DATE: 02/04/94
TIME: 11:56:02

INPUT SET: S1376.raw

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:56:07

INPUT SET: S1376.raw

154	ACC TGC ATC GAT GAG CCG CAC ACA AAA ACC GGC TAC AAG TGT CAT TGC	1227
155	Thr Cys Ile Asp Glu Pro His Thr Lys Thr Gly Tyr Lys Cys His Cys	
156	350 355 360	
157		
158	GCC AAC GGC TGG AGC GGA AAG ATG TGC GAG GAG AAA GTG CTC ACG TGT	1275
159	Ala Asn Gly Trp Ser Gly Lys Met Cys Glu Lys Val Leu Thr Cys	
160	365 370 375	
161		
162	TCG GAC AAA CCC TGT CAT CAG GGA ATC TGC CGC AAC GTT CGT CCT GGC	1323
163	Ser Asp Lys Pro Cys His Gln Gly Ile Cys Arg Asn Val Arg Pro Gly	
164	380 385 390	
165		
166	TTG GGA AGC AAG GGT CAG GGC TAC CAG TGC GAA TGT CCC ATT GGC TAC	1371
167	Leu Gly Ser Lys Gly Gln Gly Tyr Gln Cys Glu Cys Pro Ile Gly Tyr	
168	395 400 405 410	
169		
170	AGC GGA CCC AAC TGC GAT CTC CAG CTG GAC AAC TGC AGT CCG AAT CCA	1419
171	Ser Gly Pro Asn Cys Asp Leu Gln Leu Asp Asn Cys Ser Pro Asn Pro	
172	415 420 425	
173		
174	TGC ATA AAC GGT GGA AGC TGT CAG CCG AGC GGA AAG TGT ATT TGC CCA	1467
175	Cys Ile Asn Gly Ser Cys Gln Pro Ser Gly Lys Cys Ile Cys Pro	
176	430 435 440	
177		
178	GCG GGA TTT TCG GGA ACG AGA TGC GAG ACC AAC ATT GAC GAT TGT CTT	1515
179	Ala Gly Phe Ser Gly Thr Arg Cys Glu Thr Asn Ile Asp Asp Cys Leu	
180	445 450 455	
181		
182	GGC CAC CAG TGC GAG AAC GGA GGC ACC TGC ATA GAT ATG GTC AAC CAA	1563
183	Gly His Gln Cys Glu Asn Gly Thr Cys Ile Asp Met Val Asn Gln	
184	460 465 470	
185		
186	TAT CGC TGC CAA TGC GTT CCC GGT TTC CAT GGC ACC CAC TGT AGT AGC	1611
187	Tyr Arg Cys Gln Cys Val Pro Gly Phe His Gly Thr His Cys Ser Ser	
188	475 480 485 490	
189		
190	AAA GTT GAC TTG TGC CTC ATC AGA CCG TGT GCC AAT GGA GGA ACC TGC	1659
191	Lys Val Asp Leu Cys Leu Ile Arg Pro Cys Ala Asn Gly Gly Thr Cys	
192	495 500 505	
193		
194	TTG AAT CTC AAC AAC GAT TAC CAG TGC ACC TGT CGT GCG GGA TTT ACT	1707
195	Leu Asn Leu Asn Asn Asp Tyr Gln Cys Thr Cys Arg Ala Gly Phe Thr	
196	510 515 520	
197		
198	GGC AAG GAT TGC TCT GTG GAC ATC GAT GAG TGC AGC AGT GGA CCC TGT	1755
199	Gly Lys Asp Cys Ser Val Asp Ile Asp Glu Cys Ser Ser Gly Pro Cys	
200	525 530 535	
201		
202	CAT AAC GGC GGC ACT TGC ATG AAC CGC GTC AAT TCG TTC GAA TGC GTG	1803
203	His Asn Gly Gly Thr Cys Met Asn Arg Val Asn Ser Phe Glu Cys Val	
204	540 545 550	

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

DATE: 02/04/94
TIME: 11:56:13

INPUT SET: S1376.raw

205	TGT	GCC	AAT	GGT	TTC	AGG	GGC	AAG	CAG	TGC	GAT	GAG	GAG	TCC	TAC	GAT	1851
206	Cys	Ala	Asn	Gly	Phe	Arg	Gly	Lys	Gln	Cys	Asp	Glu	Glu	Ser	Tyr	Asp	
207	555				560				565						570		
208																	
209																	
210	TCG	GTG	ACC	TTC	GAT	GCC	CAC	CAA	TAT	GGA	GCG	ACC	ACA	CAA	GCG	AGA	1899
211	Ser	Val	Thr	Phe	Asp	Ala	His	Gln	Tyr	Gly	Ala	Thr	Thr	Gln	Ala	Arg	
212					575					580					585		
213																	
214	GCC	GAT	GGT	TTG	ACC	AAT	GCC	CAG	GTA	GTC	CTA	ATT	GCT	GTT	TTC	TCC	1947
215	Ala	Asp	Gly	Leu	Thr	Asn	Ala	Gln	Val	Val	Leu	Ile	Ala	Val	Phe	Ser	
216						590				595					600		
217																	
218	GTT	GCG	ATG	CCT	TTG	GTG	GCG	GTT	ATT	GCG	GCG	TGC	GTG	GTC	TTC	TGC	1995
219	Val	Ala	Met	Pro	Leu	Val	Ala	Val	Ile	Ala	Ala	Cys	Val	Val	Phe	Cys	
220					605				610						615		
221																	
222	ATG	AAG	CGC	AAG	CGT	AAG	CGT	GCT	CAG	GAA	AAG	GAC	GAC	GCG	GAG	GCC	2043
223	Met	Lys	Arg	Lys	Arg	Lys	Arg	Ala	Gln	Glu	Lys	Asp	Asp	Ala	Glu	Ala	
224		620				625									630		
225																	
226	AGG	AAG	CAG	AAC	GAA	CAG	AAT	GCG	GTG	GCC	ACA	ATG	CAT	CAC	AAT	GGC	2091
227	Arg	Lys	Gln	Asn	Glu	Gln	Asn	Ala	Val	Ala	Thr	Met	His	His	Asn	Gly	
228		635				640					645					650	
229																	
230	AGT	GGG	GTG	GGT	GTA	GCT	TTG	GCT	TCA	GCC	TCT	CTG	GGC	GGC	AAA	ACT	2139
231	Ser	Gly	Val	Gly	Val	Ala	Leu	Ala	Ser	Ala	Ser	Leu	Gly	Gly	Lys	Thr	
232					655				660						665		
233																	
234	GGC	AGC	AAC	AGC	GGT	CTC	ACC	TTC	GAT	GGC	GGC	AAC	CCG	AAT	ATC	ATC	2187
235	Gly	Ser	Asn	Ser	Gly	Leu	Thr	Phe	Asp	Gly	Gly	Asn	Pro	Asn	Ile	Ile	
236			670						675						680		
237																	
238	AAA	AAC	ACC	TGG	GAC	AAG	TCG	GTC	AAC	AAC	ATT	TGT	GCC	TCA	GCA	GCA	2235
239	Lys	Asn	Thr	Trp	Asp	Lys	Ser	Val	Asn	Asn	Ile	Cys	Ala	Ser	Ala	Ala	
240		685				690									695		
241																	
242	GCA	GCG	GCG	GCG	GCA	GCA	GCG	GCG	GAC	GAG	TGT	CTC	ATG	TAC	GGC	2283	
243	Ala	Asp	Glu	Cys	Leu	Met	Tyr	Gly									
244		700				705									710		
245																	
246	GGA	TAT	GTG	GCC	TCG	GTG	GCG	GAT	AAC	AAC	AAT	GCC	AAC	TCA	GAC	TTT	2331
247	Gly	Tyr	Val	Ala	Ser	Val	Ala	Asp	Asn	Asn	Asn	Ala	Asn	Ser	Asp	Phe	
248		715				720									730		
249																	
250	TGT	GTG	GCT	CCG	CTA	CAA	AGA	GCC	AAG	TCG	CAA	AAG	CAA	CTC	AAC	ACC	2379
251	Cys	Val	Ala	Pro	Leu	Gln	Arg	Ala	Lys	Ser	Gln	Lys	Gln	Leu	Asn	Thr	
252					735					740					745		
253																	
254	GAT	CCC	ACG	CTC	ATG	CAC	CGC	GGT	TCG	CCG	GCA	GGC	AGC	TCA	GCC	AAG	2427
255	Asp	Pro	Thr	Leu	Met	His	Arg	Gly	Ser	Pro	Ala	Gly	Ser	Ser	Ala	Lys	

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:56:18

INPUT SET: S1376.raw

256	750	755	760	
257				
258	GGA GCG TCT GGC GGA GGA CCG GGA GCG GCG GAG GGC AAG AGG ATC TCT			2475
259	Gly Ala Ser Gly Gly Pro Gly Ala Ala Glu Gly Lys Arg Ile Ser			
260	765	770	775	
261				
262	GTT TTA GGC GAG GGT TCC TAC TGT AGC CAG CGT TGG CCC TCG TTG GCG			2523
263	Val Leu Gly Glu Gly Ser Tyr Cys Ser Gln Arg Trp Pro Ser Leu Ala			
264	780	785	790	
265				
266	GCG GCG GGA GTG GCC GGA GCC TGT TCA TCC CAG CTA ATG GCT GCA GCT			2571
267	Ala Ala Gly Val Ala Gly Ala Cys Ser Ser Gln Leu Met Ala Ala Ala			
268	795	800	805	810
269				
270	TCG GCA GCG GGC AGC GGA GCG GGG ACG GCG CAA CAG CAG CGA TCC GTG			2619
271	Ser Ala Ala Gly Ser Gly Ala Gly Thr Ala Gln Gln Gln Arg Ser Val			
272	815	820	825	
273				
274	GTC TGC GGC ACT CCG CAT ATG TAACTCCAAA AATCCGGAAG GGCTCCTGGT			2670
275	Val Cys Gly Thr Pro His Met			
276	830			
277				
278	AAATCCGGAG AAATCCGCAT GGAGGAGCTG ACAGGCACATA CACAAAGAAA AGACTGGTT			2730
279				
280	GGGTTCAAAA TGTGAGAGAG ACGCCAAAAT GTTGTGTTG ATTGAAGCAG TTTAGTCGTC			2790
281				
282	ACGAAAAATG AAAAATCTGT AACAGGCATA ACTCGTAAAC TCCCTAAAAA ATTTGTATAG			2850
283				
284	TAATTAGCAA AGCTGTGACC CAGCCGTTTC GATCCCGAAT TC			2892
285				
286				
287	(2) INFORMATION FOR SEQ ID NO:2:			
288				
289	(i) SEQUENCE CHARACTERISTICS:			
290	(A) LENGTH: 833 amino acids			
291	(B) TYPE: amino acid			
292	(D) TOPOLOGY: unknown			
293				
294	(ii) MOLECULE TYPE: protein			
295				
296	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:			
297				
298	Met His Trp Ile Lys Cys Leu Leu Thr Ala Phe Ile Cys Phe Thr Val			
299	1	5	10	15
300				
301	Ile Val Gln Val His Ser Ser Gly Ser Phe Glu Leu Arg Leu Lys Tyr			
302	20	25	30	
303				
304	Phe Ser Asn Asp His Gly Arg Asp Asn Glu Gly Arg Cys Cys Ser Gly			
305	35	40	45	
306				

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:56:24

INPUT SET: S1376.raw

307 Glu Ser Asp Gly Ala Thr Gly Lys Cys Leu Gly Ser Cys Lys Thr Arg
308 50 55 60
309
310 Phe Arg Val Cys Leu Lys His Tyr Gln Ala Thr Ile Asp Thr Thr Ser
311 65 70 75 80
312
313 Gln Cys Thr Tyr Gly Asp Val Ile Thr Pro Ile Leu Gly Glu Asn Ser
314 85 90 95
315
316 Val Asn Leu Thr Asp Ala Gln Arg Phe Gln Asn Lys Gly Phe Thr Asn
317 100 105 110
318
319 Pro Ile Gln Phe Pro Phe Ser Phe Ser Trp Pro Gly Thr Phe Ser Leu
320 115 120 125
321
322 Ile Val Glu Ala Trp His Asp Thr Asn Asn Ser Gly Asn Ala Arg Thr
323 130 135 140
324
325 Asn Lys Leu Leu Ile Gln Arg Leu Leu Val Gln Gln Val Leu Glu Val
326 145 150 155 160
327
328 Ser Ser Glu Trp Lys Thr Asn Lys Ser Glu Ser Gln Tyr Thr Ser Leu
329 165 170 175
330
331 Glu Tyr Asp Phe Arg Val Thr Cys Asp Leu Asn Tyr Tyr Gly Ser Gly
332 180 185 190
333
334 Cys Ala Lys Phe Cys Arg Pro Arg Asp Asp Ser Phe Gly His Ser Thr
335 195 200 205
336
337 Cys Ser Glu Thr Gly Glu Ile Ile Cys Leu Thr Gly Trp Gln Gly Asp
338 210 215 220
339
340 Tyr Cys His Ile Pro Lys Cys Ala Lys Gly Cys Glu His Gly His Cys
341 225 230 235 240
342
343 Asp Lys Pro Asn Gln Cys Val Cys Gln Leu Gly Trp Lys Gly Ala Leu
344 245 250 255
345
346 Cys Asn Glu Cys Val Leu Glu Pro Asn Cys Ile His Gly Thr Cys Asn
347 260 265 270
348
349 Lys Pro Trp Thr Cys Ile Cys Asn Glu Gly Trp Gly Gly Leu Tyr Cys
350 275 280 285
351
352 Asn Gln Asp Leu Asn Tyr Cys Thr Asn His Arg Pro Cys Lys Asn Gly
353 290 295 300
354
355 Gly Thr Cys Phe Asn Thr Gly Glu Gly Leu Tyr Thr Cys Lys Cys Ala
356 305 310 315 320
357

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:56:29

INPUT SET: S1376.raw

358 Pro Gly Tyr Ser Gly Asp Asp Cys Glu Asn Glu Ile Tyr Ser Cys Asp
359 325 330 335
360
361 Ala Asp Val Asn Pro Cys Gln Asn Gly Gly Thr Cys Ile Asp Glu Pro
362 340 345 350
363
364 His Thr Lys Thr Gly Tyr Lys Cys His Cys Ala Asn Gly Trp Ser Gly
365 355 360 365
366
367 Lys Met Cys Glu Glu Lys Val Leu Thr Cys Ser Asp Lys Pro Cys His
368 370 375 380
369
370 Gln Gly Ile Cys Arg Asn Val Arg Pro Gly Leu Gly Ser Lys Gly Gln
371 385 390 395 400
372
373 Gly Tyr Gln Cys Glu Cys Pro Ile Gly Tyr Ser Gly Pro Asn Cys Asp
374 405 410 415
375
376 Leu Gln Leu Asp Asn Cys Ser Pro Asn Pro Cys Ile Asn Gly Gly Ser
377 420 425 430
378
379 Cys Gln Pro Ser Gly Lys Cys Ile Cys Pro Ala Gly Phe Ser Gly Thr
380 435 440 445
381
382 Arg Cys Glu Thr Asn Ile Asp Asp Cys Leu Gly His Gln Cys Glu Asn
383 450 455 460
384
385 Gly Gly Thr Cys Ile Asp Met Val Asn Gln Tyr Arg Cys Gln Cys Val
386 465 470 475 480
387
388 Pro Gly Phe His Gly Thr His Cys Ser Ser Lys Val Asp Leu Cys Leu
389 485 490 495
390
391 Ile Arg Pro Cys Ala Asn Gly Gly Thr Cys Leu Asn Leu Asn Asn Asp
392 500 505 510
393
394 Tyr Gln Cys Thr Cys Arg Ala Gly Phe Thr Gly Lys Asp Cys Ser Val
395 515 520 525
396
397 Asp Ile Asp Glu Cys Ser Ser Gly Pro Cys His Asn Gly Gly Thr Cys
398 530 535 540
399
400 Met Asn Arg Val Asn Ser Phe Glu Cys Val Cys Ala Asn Gly Phe Arg
401 545 550 555 560
402
403 Gly Lys Gln Cys Asp Glu Glu Ser Tyr Asp Ser Val Thr Phe Asp Ala
404 565 570 575
405
406 His Gln Tyr Gly Ala Thr Thr Gln Ala Arg Ala Asp Gly Leu Thr Asn
407 580 585 590
408

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:56:34

INPUT SET: S1376.raw

409 Ala Gln Val Val Leu Ile Ala Val Phe Ser Val Ala Met Pro Leu Val
410 595 600 605
411
412 Ala Val Ile Ala Ala Cys Val Val Phe Cys Met Lys Arg Lys Arg Lys
413 610 615 620
414
415 Arg Ala Gln Glu Lys Asp Asp Ala Glu Ala Arg Lys Gln Asn Glu Gln
416 625 630 635 640
417
418 Asn Ala Val Ala Thr Met His His Asn Gly Ser Gly Val Gly Val Ala
419 645 650 655
420
421 Leu Ala Ser Ala Ser Leu Gly Gly Lys Thr Gly Ser Asn Ser Gly Leu
422 660 665 670
423
424 Thr Phe Asp Gly Gly Asn Pro Asn Ile Ile Lys Asn Thr Trp Asp Lys
425 675 680 685
426
427 Ser Val Asn Asn Ile Cys Ala Ser Ala Ala Ala Ala Ala Ala Ala
428 690 695 700
429
430 Ala Ala Ala Asp Glu Cys Leu Met Tyr Gly Gly Tyr Val Ala Ser Val
431 705 710 715 720
432
433 Ala Asp Asn Asn Ala Asn Ser Asp Phe Cys Val Ala Pro Leu Gln
434 725 730 735
435
436 Arg Ala Lys Ser Gln Lys Gln Leu Asn Thr Asp Pro Thr Leu Met His
437 740 745 750
438
439 Arg Gly Ser Pro Ala Gly Ser Ser Ala Lys Gly Ala Ser Gly Gly Gly
440 755 760 765
441
442 Pro Gly Ala Ala Glu Gly Lys Arg Ile Ser Val Leu Gly Glu Gly Ser
443 770 775 780
444
445 Tyr Cys Ser Gln Arg Trp Pro Ser Leu Ala Ala Ala Gly Val Ala Gly
446 785 790 795 800
447
448 Ala Cys Ser Ser Gln Leu Met Ala Ala Ala Ser Ala Ala Gly Ser Gly
449 805 810 815
450
451 Ala Gly Thr Ala Gln Gln Gln Arg Ser Val Val Cys Gly Thr Pro His
452 820 825 830
453
454 Met
455
456
457 (2) INFORMATION FOR SEQ ID NO:3:
458
459 (i) SEQUENCE CHARACTERISTICS:

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:56:40

INPUT SET: S1376.raw

460 (A) LENGTH: 1320 base pairs
461 (B) TYPE: nucleic acid
462 (C) STRANDEDNESS: double
463 (D) TOPOLOGY: unknown

464
465 (ii) MOLECULE TYPE: cDNA
466

467
468 (ix) FEATURE:
469 (A) NAME/KEY: CDS
470 (B) LOCATION: 442..1320

471
472
473 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

474 CCGAGTCGAG CGCCGTGCTT CGAGCGGTGA TGAGCCCCTT TTCTGTCAAC GCTAAAGATC	60
475 TACAAAACAT CAGCGCCTAT CAAGTGGAAAG TGTCAAGTGT GAACAAAACA AAAACGAGAG	120
476 AAGCACATAC TAAGGTCCAT ATAAATAATA AATAATAATT GTGTGTGATA ACAACATTAT	180
477 CCAAACAAAA CCAAACAAAA CGAAGGCAAA GTGGAGAAAA TGATACAGCA TCCAGAGTAC	240
478 GGCCGTTATT CAGCTATCCA GAGCAAGTGT AGTGTGGCAA AATAGAAACA AACAAAGGCA	300
479 CCAAAATCTG CATAACATGGG CTAATTAAGG CTGCCAGCG AATTTACATT TGTGTGGTGC	360
480 CAATCCAGAG TGAATCCGAA ACAAACTCCA TCTAGATCGC CAACCAGCAT CACGCTCGCA	420
481 AACGCCCCA GAATGTACAA A ATG TTT AGG AAA CAT TTT CGG CGA AAA CCA	471
482 Met Phe Arg Lys His Phe Arg Arg Lys Pro	
483 1 5 10	
484 GCT ACG TCG TCG TTG GAG TCA ACA ATA GAA TCA GCA GAC AGC CTG	519
485 Ala Thr Ser Ser Leu Glu Ser Thr Ile Glu Ser Ala Asp Ser Leu	
486 15 20 25	
487	
488 GGA ATG TCC AAG AAG ACG GCG ACA AAA AGG CAG CGT CCG AGG CAT CGG	567
489 Gly Met Ser Lys Lys Thr Ala Thr Lys Arg Gln Arg Pro Arg His Arg	
490 30 35 40	
491	
492 GTA CCC AAA ATC GCG ACC CTG CCA TCG ACG ATC CGC GAT TGT CGA TCA	615
493 Val Pro Lys Ile Ala Thr Leu Pro Ser Thr Ile Arg Asp Cys Arg Ser	
494 45 50 55	
495	
496 TTA AAG TCT GCC TGC AAC TTA ATT GCT TTA ATT TTA ATA CTG TTA GTC	663
497 Leu Lys Ser Ala Cys Asn Leu Ile Ala Leu Ile Leu Ile Leu Val	
498 60 65 70	
499	
500 CAT AAG ATA TCC GCA GCT GGT AAC TTC GAG CTG GAA ATA TTA GAA ATC	711
501	

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

DATE: 02/04/94
TIME: 11:56:45

INPUT SET: S1376.raw

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:56:50

INPUT SET: S1376.raw

562 ATA TGC AAG GCG GGC TGC GAC CCC GTC CAC GGC 1320
563 Ile Cys Lys Ala Gly Cys Asp Pro Val His Gly
564 285 290

565

566

567 (2) INFORMATION FOR SEQ ID NO:4:

568

569 (i) SEQUENCE CHARACTERISTICS:
570 (A) LENGTH: 293 amino acids
571 (B) TYPE: amino acid
572 (D) TOPOLOGY: unknown

573

574 (ii) MOLECULE TYPE: protein

575

576 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

577

578 Met Phe Arg Lys His Phe Arg Arg Lys Pro Ala Thr Ser Ser Ser Leu
579 1 5 10 15

580

581 Glu Ser Thr Ile Glu Ser Ala Asp Ser Leu Gly Met Ser Lys Lys Thr
582 20 25 30

583

584 Ala Thr Lys Arg Gln Arg Pro Arg His Arg Val Pro Lys Ile Ala Thr
585 35 40 45

586

587 Leu Pro Ser Thr Ile Arg Asp Cys Arg Ser Leu Lys Ser Ala Cys Asn
588 50 55 60

589

590 Leu Ile Ala Leu Ile Leu Ile Leu Leu Val His Lys Ile Ser Ala Ala
591 65 70 75 80

592

593 Gly Asn Phe Glu Leu Glu Ile Leu Glu Ile Ser Asn Thr Asn Ser His
594 85 90 95

595

596 Leu Leu Asn Gly Tyr Cys Cys Gly Met Pro Ala Glu Leu Arg Ala Thr
597 100 105 110

598

599 Lys Thr Ile Gly Cys Ser Pro Cys Thr Thr Ala Phe Arg Leu Cys Leu
600 115 120 125

601

602 Lys Glu Tyr Gln Thr Thr Glu Gln Gly Ala Ser Ile Ser Thr Gly Cys
603 130 135 140

604

605 Ser Phe Gly Asn Ala Thr Thr Lys Ile Leu Gly Gly Ser Ser Phe Val
606 145 150 155 160

607

608 Leu Ser Asp Pro Gly Val Gly Ala Ile Val Leu Pro Phe Thr Phe Arg
609 165 170 175

610

611 Trp Thr Lys Ser Phe Thr Leu Ile Leu Gln Ala Leu Asp Met Tyr Asn
612 180 185 190

INPUT SET: S1376.raw

613
614 Thr Ser Tyr Pro Asp Ala Glu Arg Leu Ile Glu Glu Thr Ser Tyr Ser
615 195 200 205
616
617 Gly Val Ile Leu Pro Ser Pro Glu Trp Lys Thr Leu Asp His Ile Gly
618 210 215 220
619
620 Arg Asn Ala Arg Ile Thr Tyr Arg Val Arg Val Gln Cys Ala Val Thr
621 225 230 235 240
622
623 Tyr Tyr Asn Thr Thr Cys Thr Phe Cys Arg Pro Arg Asp Asp Gln
624 245 250 255
625
626 Phe Gly His Tyr Ala Cys Gly Ser Glu Gly Gln Lys Leu Cys Leu Asn
627 260 265 270
628
629 Gly Trp Gln Gly Val Asn Cys Glu Glu Ala Ile Cys Lys Ala Gly Cys
630 275 280 285
631
632 Asp Pro Val His Gly
633 290
634
635
636 (2) INFORMATION FOR SEQ ID NO:5:
637
638 (i) SEQUENCE CHARACTERISTICS:
639 (A) LENGTH: 267 base pairs
640 (B) TYPE: nucleic acid
641 (C) STRANDEDNESS: double
642 (D) TOPOLOGY: unknown
643
644 (ii) MOLECULE TYPE: cDNA
645
646
647
648 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:
649
650 CGGTGGACTT CCTTCGTGTA TTGGTGGGAG CCCTCGGGAA CGGGGGGTAA CACTGAAAGG 60
651
652 TCGAGTACCC ATTTCCGTCA TAACGGGTTG GTCGCCCT AGGGGTCGGA GTCAGGTGGA 120
653
654 CGGGAGGTCTG ACAACGCCCG GGGGACGGGT GGTACATGGT GTAAGGTCTT TACCGGACCG 180
655
656 GGCAAACGGG TCACACCGAA AGGGGTGAAC GGTAACTACG GGGTCGTCCCT GCCCGTCCAT 240
657
658 CGAGTCTGGT AAGAGGGTCG CCTTAAG 267
659
660 (2) INFORMATION FOR SEQ ID NO:6:
661
662 (i) SEQUENCE CHARACTERISTICS:
663 (A) LENGTH: 574 base pairs

650 CGGTGGACTT CCTTCGTGTA TTGGTGGGAG CCCTCGGGAA CGGGGGGTAA CACTGAAAGG 60
651
652 TCGAGTACCC ATTTCCGTCA TAACGGGTTG GTCGCCCT AGGGGTCGGA GTCAGGTGGA 120
653
654 CGGGAGGTCTG ACAACGCCCG GGGGACGGGT GGTACATGGT GTAAGGTCTT TACCGGACCG 180
655
656 GGCAAACGGG TCACACCGAA AGGGGTGAAC GGTAACTACG GGGTCGTCCCT GCCCGTCCAT 240
657
658 CGAGTCTGGT AAGAGGGTCG CCTTAAG 267

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:57:03

INPUT SET: S1376.raw

664 (B) TYPE: nucleic acid
665 (C) STRANDEDNESS: double
666 (D) TOPOLOGY: unknown

667
668 (ii) MOLECULE TYPE: cDNA
669
670
671
672

673 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:
674

675 GAATTCCCTTC CATTATAACGT GACTTTCTG AAACTGTAGC CACCCCTAGTG TCTCTAACTC	60
676 CCTCTGGAGT TTGTCAGCTT TGGTCTTTTC AAAGAGCAGG CTCTCTTCAA GCTCCTTAAT	120
677 GCGGGCATGC TCCAGTTGG TCTGCGTCTC AAGATCACCT TTGGTAATTG ATTCTTCTTC	180
678 AACCCGGAAC TGAAGGCTGG CTCTCACCCCT CTAGGCAGAG CAGGAATTCC GAGGTGGATG	240
681 TGTTAGATGT GAATGTCCGT GGCCCAGATG GCTGCACCCC ATTGATGTTG GCTTCTCTCC	300
683 GAGGAGGCAG CTCAGATTG AGTGATGAAG ATGAAGATGC AGAGGACTGT TCTGCTAACCA	360
685 TCATCACAGA CTTGGTCTAC CAGGGTGCCA GCCTCCAGNC CAGACAGACC GGACTGGTGA	420
687 GATGGCCCTG CACCTTGCAG CCCGCTACTC ACGGGCTGAT GCTGCCAAGC GTCTCCTGGA	480
691 TGCAGGTGCA GATGCCAATG CCCAGGACAA CATGGGCCGC TGTCCACTCC ATGCTGCAGT	540
693 GGCACGTGAT GCCAAGGTGT ATTCAAGATCT GTTA	574

694 (2) INFORMATION FOR SEQ ID NO:7:
696

697 (i) SEQUENCE CHARACTERISTICS:
698 (A) LENGTH: 295 base pairs
699 (B) TYPE: nucleic acid
700 (C) STRANDEDNESS: double
701 (D) TOPOLOGY: unknown

702
703 (ii) MOLECULE TYPE: cDNA
704
705
706

707 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:
708

709 TCCAGATTCT GATTGCGAAC CGAGTAACTG ATCTAGATGC CAGGATGAAT GATGGTACTA	60
710 CACCCCTGAT CCTGGCTGCC CGCCTGGCTG TGGAGGGAAT GGTGGCAGAA CTGATCAACT	120
712 GCCAAGCGGA TGTGAATGCA GTGGATGACC ATGGAAAATC TGCTCTTCAC TGGGCAGCTG	180

INPUT SET: S1376.raw

715 CTGTCAATAA TGTGGAGGCA ACTCTTTGT TGTTGAAAAA TGGGGCCAAC CGAGACATGC 240

716
717 AGGACAACAA GGAAGAGACA CCTCTGTTTC TTGCTGCCG GGAGGAGCTA TAAGC 295

718

719

720 (2) INFORMATION FOR SEQ ID NO:8:

721

722 (i) SEQUENCE CHARACTERISTICS:
723 (A) LENGTH: 248 base pairs
724 (B) TYPE: nucleic acid
725 (C) STRANDEDNESS: double
726 (D) TOPOLOGY: unknown

727

728 (ii) MOLECULE TYPE: cDNA

729

730

731

732 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

733

734 GAATTCCATT CAGGAGGAAA GGGTGGGGAG AGAACAGGC ACCCACTTTC CCGTGGCTGG 60

735
736 ACTCGTTCCC AGGTGGCTCC ACCGGCAGCT GTGACCGCCG CAGGTGGGG CGGAGTGCCA 120737
738 TTCAGAAAAT TCCAGAAAAG CCCTACCCCA ACTCGGACGG CAACGTCACA CCCGTGGTA 180739
740 GCAACTGGCA CACAAACAGC CAGCGTGTCT GGGGCACGGG GGGATGGCAC CCCCTGCAGG 240741
742 CAGAGCTG 248

743

744 (2) INFORMATION FOR SEQ ID NO:9:

745

746 (i) SEQUENCE CHARACTERISTICS:
747 (A) LENGTH: 323 base pairs
748 (B) TYPE: nucleic acid
749 (C) STRANDEDNESS: double
750 (D) TOPOLOGY: unknown

751

752 (ii) MOLECULE TYPE: cDNA

753

754

755

756

757 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

758

759 TACGTATCTC GAGCACAGAC AGCTGACGTA CACTTTNNNA GTGCGAGGGA CATTGTCGG 60

760
761 ACCAGTACGA ACATTTAGGC TCAGTACGGT AGGTCCATGG CCAAGACTAG GAGACGTAGG 120762
763 GAGCTACAGG TCCCGCTCGC TAAACTCGGA CCACTGAAAC CTCCGGTCGA CAGTCGGTAA 180764
765 GCGAACAAAGA GGGCCAGATC TTAGAGAAGG TGTGCGGGCG AGACTCGGGC TCGGGTCAGG 240

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:57:17

INPUT SET: S1376.raw

766
 767 CGGCCTTAAG GACGTCGGGC CCNNNAGGTG ATCAAGATCT CGNCNCGGCG GGCGCCACCT 300
 768
 769 CGAGGNCGAA AACAAAGGGAA ATC 323
 770
 771
 772 (2) INFORMATION FOR SEQ ID NO:10:
 773
 774 (i) SEQUENCE CHARACTERISTICS:
 775 (A) LENGTH: 3234 base pairs
 776 (B) TYPE: nucleic acid
 777 (C) STRANDEDNESS: double
 778 (D) TOPOLOGY: unknown
 779
 780 (ii) MOLECULE TYPE: cDNA
 781
 782
 783 (ix) FEATURE:
 784 (A) NAME/KEY: CDS
 785 (B) LOCATION: 1..3234
 786
 787
 788 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:
 789
 790 TGC CAG GAG GAC GCG GGC AAC AAG GTC TGC AGC CTG CAG TGC AAC AAC 48
 791 Cys Gln Glu Asp Ala Gly Asn Lys Val Cys Ser Leu Gln Cys Asn Asn
 792 1 5 10 15
 793
 794 CAC GCG TGC GGC TGG GAC GGC GGT GAC TGC TCC CTC AAC TTC AAT GAC 96
 795 His Ala Cys Gly Trp Asp Gly Asp Cys Ser Leu Asn Phe Asn Asp
 796 20 25 30
 797
 798 CCC TGG AAG AAC TGC ACG CAG TCT CTG CAG TGC TGG AAG TAC TTC AGT 144
 799 Pro Trp Lys Asn Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser
 800 35 40 45
 801
 802 GAC GGC CAC TGT GAC AGC CAG TGC AAC TCA GCC GGC TGC CTC TTC GAC 192
 803 Asp Gly His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp
 804 50 55 60
 805
 806 GGC TTT GAC TGC CAG CGT GCG GAA GGC CAG TGC AAC CCC CTG TAC GAC 240
 807 Gly Phe Asp Cys Gln Arg Ala Glu Gly Gln Cys Asn Pro Leu Tyr Asp
 808 65 70 75 80
 809
 810 CAG TAC TGC AAG GAC CAC TTC AGC GAC GGG CAC TGC GAC CAG GGC TGC 288
 811 Gln Tyr Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys
 812 85 90 95
 813
 814 AAC AGC GCG GAG TGC GAG TGG GAC GGG CTG GAC TGT GCG GAG CAT GTA 336
 815 Asn Ser Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val
 816 100 105 110

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

INPUT SET: S1376.raw

817	CCC GAG AGG CTG GCG GCC GGC ACG CTG GTG GTG GTG CTG ATG CCG	384
818	Pro Glu Arg Leu Ala Ala Gly Thr Leu Val Val Val Val Leu Met Pro	
819	115 120 125	
820		
821		
822	CCG GAG CAG CTG CGC AAC AGC TCC TTC CAC TTC CTG CGG GAG CTC AGC	432
823	Pro Glu Gln Leu Arg Asn Ser Ser Phe His Phe Leu Arg Glu Leu Ser	
824	130 135 140	
825		
826	CGC GTG CTG CAC ACC AAC GTG GTC TTC AAG CGT GAC GCA CAC GGC CAG	480
827	Arg Val Leu His Thr Asn Val Val Phe Lys Arg Asp Ala His Gly Gln	
828	145 150 155 160	
829		
830	CAG ATG ATC TTC CCC TAC TAC GGC CGC GAG GAG GAG CTG CGC AAG CAC	528
831	Gln Met Ile Phe Pro Tyr Tyr Gly Arg Glu Glu Glu Leu Arg Lys His	
832	165 170 175	
833		
834	CCC ATC AAG CGT GCC GCC GAG GGC TGG GCC GCA CCT GAC GCC CTG CTG	576
835	Pro Ile Lys Arg Ala Ala Glu Gly Trp Ala Ala Pro Asp Ala Leu Leu	
836	180 185 190	
837		
838	GGC CAG GTG AAG GCC TCG CTG CTC CCT GGT GGC AGC GAG GGT GGG CGG	624
839	Gly Gln Val Lys Ala Ser Leu Leu Pro Gly Gly Ser Glu Gly Gly Arg	
840	195 200 205	
841		
842	CGG CGG AGG GAG CTG GAC CCC ATG GAC GTC CGC GGC TCC ATC GTC TAC	672
843	Arg Arg Arg Glu Leu Asp Pro Met Asp Val Arg Gly Ser Ile Val Tyr	
844	210 215 220	
845		
846	CTG GAG ATT GAC AAC CGG CAG TGT GTG CAG GCC TCC TCG CAG TGC TTC	720
847	Leu Glu Ile Asp Asn Arg Gln Cys Val Gln Ala Ser Ser Gln Cys Phe	
848	225 230 235 240	
849		
850	CAG AGT GCC ACC GAC GTG GCC GCA TTC CTG GGA GCG CTC GCC TCG CTG	768
851	Gln Ser Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala Ser Leu	
852	245 250 255	
853		
854	GGC AGC CTC AAC ATC CCC TAC AAG ATC GAG GCC GTG CAG AGT GAG ACC	816
855	Gly Ser Leu Asn Ile Pro Tyr Lys Ile Glu Ala Val Gln Ser Glu Thr	
856	260 265 270	
857		
858	GTG GAG CCG CCC CCG GCG CAG CTG CAC TTC ATG TAC GTG GCG GCG	864
859	Val Glu Pro Pro Pro Ala Gln Leu His Phe Met Tyr Val Ala Ala	
860	275 280 285	
861		
862	GCC GCC TTT GTG CTT CTG TTC GTG GGC TGC GGG GTG CTG CTG TCC	912
863	Ala Ala Phe Val Leu Leu Phe Phe Val Gly Cys Gly Val Leu Leu Ser	
864	290 295 300	
865		
866	CGC AAG CGC CGG CGG CAG CAT GGC CAG CTC TGG TTC CCT GAG GGC TTC	960
867	Arg Lys Arg Arg Arg Gln His Gly Gln Leu Trp Phe Pro Glu Gly Phe	

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:57:30

INPUT SET: S1376.raw

868	305	310	315	320	
869					
870	AAA GTG TCT GAG GCC AGC AAG AAG AAG CGG CGG GAG CCC CTC GGC GAG				1008
871	Lys Val Ser Glu Ala Ser Lys Lys Lys Arg Arg Glu Pro Leu Gly Glu				
872	325		330		335
873					
874	GAC TCC GTG GGC CTC AAG CCC CTG AAG AAC GCT TCA GAC GGT GCC CTC				1056
875	Asp Ser Val Gly Leu Lys Pro Leu Lys Asn Ala Ser Asp Gly Ala Leu				
876	340		345		350
877					
878	ATG GAC GAC AAC CAG AAT GAG TGG GGG GAC GAG GAC CTG GAG ACC AAG				1104
879	Met Asp Asp Asn Gln Asn Glu Trp Gly Asp Glu Asp Leu Glu Thr Lys				
880	355		360		365
881					
882	AAG TTC CGG TTC GAG GAG CCC GTG GTT CTG CCT GAC CTG GAC GAC CAG				1152
883	Lys Phe Arg Phe Glu Glu Pro Val Val Leu Pro Asp Leu Asp Asp Gln				
884	370		375		380
885					
886	ACA GAC CAC CGG CAG TGG ACT CAG CAG CAC CTG GAT GCC GCT GAC CTG				1200
887	Thr Asp His Arg Gln Trp Thr Gln Gln His Leu Asp Ala Ala Asp Leu				
888	385		390		400
889					
890	CGC ATG TCT GCC ATG GCC CCC ACA CCG CCC CAG GGT GAG GTT GAC GCC				1248
891	Arg Met Ser Ala Met Ala Pro Thr Pro Pro Gln Gly Glu Val Asp Ala				
892	405		410		415
893					
894	GAC TGC ATG GAC GTC AAT GTC CGC GGG CCT GAT GGC TTC ACC CCG CTC				1296
895	Asp Cys Met Asp Val Asn Val Arg Gly Pro Asp Gly Phe Thr Pro Leu				
896	420		425		430
897					
898	ATG ATC GCC TCC TGC AGC GGG GGC GGC CTG GAG ACG GGC AAC AGC GAG				1344
899	Met Ile Ala Ser Cys Ser Gly Gly Leu Glu Thr Gly Asn Ser Glu				
900	435		440		445
901					
902	GAA GAG GAG GAC GCG CCG GCC GTC ATC TCC GAC TTC ATC TAC CAG GGC				1392
903	Glu Glu Glu Asp Ala Pro Ala Val Ile Ser Asp Phe Ile Tyr Gln Gly				
904	450		455		460
905					
906	GCC AGC CTG CAC AAC CAG ACA GAC CGC ACG GGC GAG ACC GCC TTG CAC				1440
907	Ala Ser Leu His Asn Gln Thr Asp Arg Thr Gly Glu Thr Ala Leu His				
908	465		470		475
909					
910	480		485		490
911	CTG GCC GCC CGC TAC TCA CGC TCT GAT GCC GCC AAG CGC CTG CTG GAG				1488
912	Leu Ala Ala Arg Tyr Ser Arg Ser Asp Ala Ala Lys Arg Leu Leu Glu				
913	495		490		495
914					
915	GCC AGC GCA GAT GCC AAC ATC CAG GAC AAC ATG GGC CGC ACC CCG CTG				1536
916	Ala Ser Ala Asp Ala Asn Ile Gln Asp Asn Met Gly Arg Thr Pro Leu				
917	500		505		510
918	CAT GCG GCT GTG TCT GCC GAC GCA CAA GGT GTC TTC CAG ATC CTG ATC				1584

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:57:37

INPUT SET: S1376.raw

919	His Ala Ala Val Ser Ala Asp Ala Gln Gly Val Phe Gln Ile Leu Ile			
920	515	520	525	
921				
922	CGG AAC CGA GCC ACA GAC CTG GAT GCC CGC ATG CAT GAT GGC ACG ACG		1632	
923	Arg Asn Arg Ala Thr Asp Leu Asp Ala Arg Met His Asp Gly Thr Thr			
924	530	535	540	
925				
926	CCA CTG ATC CTG GCT GCC CGC CTG GCC GTG GAG GGC ATG CTG GAG GAC		1680	
927	Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu Gly Met Leu Glu Asp			
928	545	550	555	560
929				
930	CTC ATC AAC TCA CAC GCC GAC GTC AAC GCC GTA GAT GAC CTG GGC AAG		1728	
931	Leu Ile Asn Ser His Ala Asp Val Asn Ala Val Asp Asp Leu Gly Lys			
932	565	570	575	
933				
934	TCC GCC CTG CAC TGG GCC GCC GTG AAC AAT GTG GAT GCC GCA GTT		1776	
935	Ser Ala Leu His Trp Ala Ala Ala Val Asn Asn Val Asp Ala Ala Val			
936	580	585	590	
937				
938	GTG CTC CTG AAG AAC GGG GCT AAC AAA GAT ATG CAG AAC AAC AGG GAG		1824	
939	Val Leu Leu Lys Asn Gly Ala Asn Lys Asp Met Gln Asn Asn Arg Glu			
940	595	600	605	
941				
942	GAG ACA CCC CTG TTT CTG GCC GCC CGG GAG GGC AGC TAC GAG ACC GCC		1872	
943	Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly Ser Tyr Glu Thr Ala			
944	610	615	620	
945				
946	AAG GTG CTG CTG GAC CAC TTT GCC AAC CGG GAC ATC ACG GAT CAT ATG		1920	
947	Lys Val Leu Leu Asp His Phe Ala Asn Arg Asp Ile Thr Asp His Met			
948	625	630	635	640
949				
950	GAC CGC CTG CCG CGC GAC ATC GCA CAG GAG CGC ATG CAT CAC GAC ATC		1968	
951	Asp Arg Leu Pro Arg Asp Ile Ala Gln Glu Arg Met His His Asp Ile			
952	645	650	655	
953				
954	GTG AGG CTG CTG GAC GAG TAC AAC CTG GTG CGC AGC CCG CAG CTG CAC		2016	
955	Val Arg Leu Leu Asp Glu Tyr Asn Leu Val Arg Ser Pro Gln Leu His			
956	660	665	670	
957				
958	GGA GCC CCG CTG GGG GGC ACG CCC ACC CTG TCG CCC CCG CTC TGC TCG		2064	
959	Gly Ala Pro Leu Gly Gly Thr Pro Thr Leu Ser Pro Pro Leu Cys Ser			
960	675	680	685	
961				
962	CCC AAC GGC TAC CTG GGC AGC CTC AAG CCC GGC GTG CAG GGC AAG AAG		2112	
963	Pro Asn Gly Tyr Leu Gly Ser Leu Lys Pro Gly Val Gln Gly Lys Lys			
964	690	695	700	
965				
966	GTC CGC AAG CCC AGC AGC AAA GGC CTG GCC TGT GGA AGC AAG GAG GGC		2160	
967	Val Arg Lys Pro Ser Ser Lys Gly Leu Ala Cys Gly Ser Lys Glu Ala			
968	705	710	715	720
969				

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:57:44

INPUT SET: S1376.raw

970	AAG GAC CTC AAG GCA CGG AGG AAG AAG TCC CAG GAT GGC AAG GGC TGC	2208
971	Lys Asp Leu Lys Ala Arg Arg Lys Lys Ser Gln Asp Gly Lys Gly Cys	
972	725 730 735	
973		
974	CTG CTG GAC AGC TCC GGC ATG CTC TCG CCC GTG GAC TCC CTG GAG TCA	2256
975	Leu Leu Asp Ser Ser Gly Met Leu Ser Pro Val Asp Ser Leu Glu Ser	
976	740 745 750	
977		
978	CCC CAT GGC TAC CTG TCA GAC GTG GCC TCG CCG CCA CTG CTG CCC TCC	2304
979	Pro His Gly Tyr Leu Ser Asp Val Ala Ser Pro Pro Leu Leu Pro Ser	
980	755 760 765	
981		
982	CCG TTC CAG CAG TCT CCG TCC GTG CCC CTC AAC CAC CTG CCT GGG ATG	2352
983	Pro Phe Gln Gln Ser Pro Ser Val Pro Leu Asn His Leu Pro Gly Met	
984	770 775 780	
985		
986	CCC GAC ACC CAC CTG GGC ATC GGG CAC CTG AAC GTG GCG GCC AAG CCC	2400
987	Pro Asp Thr His Leu Gly Ile Gly His Leu Asn Val Ala Ala Lys Pro	
988	785 790 795 800	
989		
990	GAG ATG GCG GCG CTG GGT GGG GGC CGG CTG GCC TTT GAG ACT GGC	2448
991	Glu Met Ala Ala Leu Gly Gly Gly Arg Leu Ala Phe Glu Thr Gly	
992	805 810 815	
993		
994	CCA CCT CGT CTC TCC CAC CTG CCT GTG GCC TCT GGC ACC AGC ACC GTC	2496
995	Pro Pro Arg Leu Ser His Leu Pro Val Ala Ser Gly Thr Ser Thr Val	
996	820 825 830	
997		
998	CTG GGC TCC AGC AGC GGA GGG GCC CTG AAT TTC ACT GTG GGC GGG TCC	2544
999	Leu Gly Ser Ser Gly Gly Ala Leu Asn Phe Thr Val Gly Gly Ser	
1000	835 840 845	
1001		
1002	ACC AGT TTG AAT GGT CAA TGC GAG TGG CTG TCC CGG CTG CAG AGC GGC	2592
1003	Thr Ser Leu Asn Gly Gln Cys Glu Trp Leu Ser Arg Leu Gln Ser Gly	
1004	850 855 860	
1005		
1006	ATG GTG CCG AAC CAA TAC AAC CCT CTG CGG GGG AGT GTG GCA CCA GGC	2640
1007	Met Val Pro Asn Gln Tyr Asn Pro Leu Arg Gly Ser Val Ala Pro Gly	
1008	865 870 875 880	
1009		
1010	CCC CTG AGC ACA CAG GCC CCC TCC CTG CAG CAT GGC ATG GTA GGC CCG	2688
1011	Pro Leu Ser Thr Gln Ala Pro Ser Leu Gln His Gly Met Val Gly Pro	
1012	885 890 895	
1013		
1014	CTG CAC AGT AGC CTT GCT GCC AGC GCC CTG TCC CAG ATG ATG AGC TAC	2736
1015	Leu His Ser Ser Leu Ala Ala Ser Ala Leu Ser Gln Met Met Ser Tyr	
1016	900 905 910	
1017		
1018	CAG GGC CTG CCC AGC ACC CGG CTG GCC ACC CAG CCT CAC CTG GTG CAG	2784
1019	Gln Gly Leu Pro Ser Thr Arg Leu Ala Thr Gln Pro His Leu Val Gln	
1020	915 920 925	

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

DATE: 02/04/94
TIME: 11:57:51

INPUT SET: S1376.raw

1021 ACC CAG CAG GTG CAG CCA CAA AAC TTA CAG ATG CAG CAG CAG AAC CTG 2832
 1022 Thr Gln Gln Val Gln Pro Gln Asn Leu Gln Met Gln Gln Gln Asn Leu
 1023 930 935 940
 1025
 1026 CAG CCA GCA AAC ATC CAG CAG CAA AGC CTG CAG CCG CCA CCA CCA 2880
 1027 Gln Pro Ala Asn Ile Gln Gln Gln Ser Leu Gln Pro Pro Pro Pro
 1028 945 950 955 960
 1029
 1030 CCA CCA CAG CCG CAC CTT GGC GTG AGC TCA GCA GCC AGC GGC CAC CTG 2928
 1031 Pro Pro Gln Pro His Leu Gly Val Ser Ser Ala Ala Ser Gly His Leu
 1032 965 970 975
 1033
 1034 GGC CGG AGC TTC CTG AGT GGA GAG CCG AGC CAG GCA GAC GTG CAG CCA 2976
 1035 Gly Arg Ser Phe Leu Ser Gly Glu Pro Ser Gln Ala Asp Val Gln Pro
 1036 980 985 990
 1037
 1038 CTG GGC CCC AGC AGC CTG GCG GTG CAC ACT ATT CTG CCC CAG GAG AGC 3024
 1039 Leu Gly Pro Ser Ser Leu Ala Val His Thr Ile Leu Pro Gln Glu Ser
 1040 995 1000 1005
 1041
 1042 CCC GCC CTG CCC ACG TCG CTG CCA TCC TCG CTG GTC CCA CCC GTG ACC 3072
 1043 Pro Ala Leu Pro Thr Ser Leu Pro Ser Ser Leu Val Pro Pro Val Thr
 1044 1010 1015 1020
 1045
 1046 GCA GCC CAG TTC CTG ACG CCC CCC TCG CAG CAC AGC TAC TCC TCG CCT 3120
 1047 Ala Ala Gln Phe Leu Thr Pro Pro Ser Gln His Ser Tyr Ser Ser Pro
 1048 1025 1030 1035 1040
 1049
 1050 GTG GAC AAC ACC CCC AGC CAC CAG CTA CAG GTG CCT GTT CCT GTA ATG 3168
 1051 Val Asp Asn Thr Pro Ser His Gln Leu Gln Val Pro Val Pro Val Met
 1052 1045 1050 1055
 1053
 1054 GTA ATG ATC CGA TCT TCG GAT CCT TCT AAA GGC TCA TCA ATT TTG ATC 3216
 1055 Val Met Ile Arg Ser Ser Asp Pro Ser Lys Gly Ser Ser Ile Leu Ile
 1056 1060 1065 1070
 1057
 1058 GAA GCT CCC GAC TCA TGG 3234
 1059 Glu Ala Pro Asp Ser Trp
 1060 1075
 1061
 1062
 1063 (2) INFORMATION FOR SEQ ID NO:11:
 1064
 1065 (i) SEQUENCE CHARACTERISTICS:
 1066 (A) LENGTH: 1078 amino acids
 1067 (B) TYPE: amino acid
 1068 (D) TOPOLOGY: unknown
 1069
 1070 (ii) MOLECULE TYPE: protein
 1071

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:57:57

INPUT SET: S1376.raw

1072 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

1073

1074 Cys Gln Glu Asp Ala Gly Asn Lys Val Cys Ser Leu Gln Cys Asn Asn
1075 1 5 10 15

1076

1077 His Ala Cys Gly Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp
1078 20 25 30

1079

1080 Pro Trp Lys Asn Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser
1081 35 40 45

1082

1083 Asp Gly His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp
1084 50 55 60

1085

1086 Gly Phe Asp Cys Gln Arg Ala Glu Gly Gln Cys Asn Pro Leu Tyr Asp
1087 65 70 75 80

1088

1089 Gln Tyr Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys
1090 85 90 95

1091

1092 Asn Ser Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val
1093 100 105 110

1094

1095 Pro Glu Arg Leu Ala Ala Gly Thr Leu Val Val Val Val Leu Met Pro
1096 115 120 125

1097

1098 Pro Glu Gln Leu Arg Asn Ser Ser Phe His Phe Leu Arg Glu Leu Ser
1099 130 135 140

1100

1101 Arg Val Leu His Thr Asn Val Val Phe Lys Arg Asp Ala His Gly Gln
1102 145 150 155 160

1103

1104 Gln Met Ile Phe Pro Tyr Tyr Gly Arg Glu Glu Glu Leu Arg Lys His
1105 165 170 175

1106

1107 Pro Ile Lys Arg Ala Ala Glu Gly Trp Ala Ala Pro Asp Ala Leu Leu
1108 180 185 190

1109

1110 Gly Gln Val Lys Ala Ser Leu Leu Pro Gly Gly Ser Glu Gly Gly Arg
1111 195 200 205

1112

1113 Arg Arg Arg Glu Leu Asp Pro Met Asp Val Arg Gly Ser Ile Val Tyr
1114 210 215 220

1115

1116 Leu Glu Ile Asp Asn Arg Gln Cys Val Gln Ala Ser Ser Gln Cys Phe
1117 225 230 235 240

1118

1119 Gln Ser Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala Ser Leu
1120 245 250 255

1121

1122 Gly Ser Leu Asn Ile Pro Tyr Lys Ile Glu Ala Val Gln Ser Glu Thr

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:58:04

INPUT SET: S1376.raw

1123 260 265 270
1124
1125 Val Glu Pro Pro Pro Ala Gln Leu His Phe Met Tyr Val Ala Ala
1126 275 280 285
1127
1128 Ala Ala Phe Val Leu Leu Phe Phe Val Gly Cys Gly Val Leu Leu Ser
1129 290 295 300
1130
1131 Arg Lys Arg Arg Arg Gln His Gly Gln Leu Trp Phe Pro Glu Gly Phe
1132 305 310 315 320
1133
1134 Lys Val Ser Glu Ala Ser Lys Lys Lys Arg Arg Glu Pro Leu Gly Glu
1135 325 330 335
1136
1137 Asp Ser Val Gly Leu Lys Pro Leu Lys Asn Ala Ser Asp Gly Ala Leu
1138 340 345 350
1139
1140 Met Asp Asp Asn Gln Asn Glu Trp Gly Asp Glu Asp Leu Glu Thr Lys
1141 355 360 365
1142
1143 Lys Phe Arg Phe Glu Glu Pro Val Val Leu Pro Asp Leu Asp Asp Gln
1144 370 375 380
1145
1146 Thr Asp His Arg Gln Trp Thr Gln Gln His Leu Asp Ala Ala Asp Leu
1147 385 390 395 400
1148
1149 Arg Met Ser Ala Met Ala Pro Thr Pro Pro Gln Gly Glu Val Asp Ala
1150 405 410 415
1151
1152 Asp Cys Met Asp Val Asn Val Arg Gly Pro Asp Gly Phe Thr Pro Leu
1153 420 425 430
1154
1155 Met Ile Ala Ser Cys Ser Gly Gly Leu Glu Thr Gly Asn Ser Glu
1156 435 440 445
1157
1158 Glu Glu Glu Asp Ala Pro Ala Val Ile Ser Asp Phe Ile Tyr Gln Gly
1159 450 455 460
1160
1161 Ala Ser Leu His Asn Gln Thr Asp Arg Thr Gly Glu Thr Ala Leu His
1162 465 470 475 480
1163
1164 Leu Ala Ala Arg Tyr Ser Arg Ser Asp Ala Ala Lys Arg Leu Leu Glu
1165 485 490 495
1166
1167 Ala Ser Ala Asp Ala Asn Ile Gln Asp Asn Met Gly Arg Thr Pro Leu
1168 500 505 510
1169
1170 His Ala Ala Val Ser Ala Asp Ala Gln Gly Val Phe Gln Ile Leu Ile
1171 515 520 525
1172
1173 Arg Asn Arg Ala Thr Asp Leu Asp Ala Arg Met His Asp Gly Thr Thr

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:58:11

INPUT SET: S1376.raw

1174 530 535 540
1175
1176 Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu Gly Met Leu Glu Asp
1177 545 550 555 560
1178
1179 Leu Ile Asn Ser His Ala Asp Val Asn Ala Val Asp Asp Leu Gly Lys
1180 565 570 575
1181
1182 Ser Ala Leu His Trp Ala Ala Ala Val Asn Asn Val Asp Ala Ala Val
1183 580 585 590
1184
1185 Val Leu Leu Lys Asn Gly Ala Asn Lys Asp Met Gln Asn Asn Arg Glu
1186 595 600 605
1187
1188 Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly Ser Tyr Glu Thr Ala
1189 610 615 620
1190
1191 Lys Val Leu Leu Asp His Phe Ala Asn Arg Asp Ile Thr Asp His Met
1192 625 630 635 640
1193
1194 Asp Arg Leu Pro Arg Asp Ile Ala Gln Glu Arg Met His His Asp Ile
1195 645 650 655
1196
1197 Val Arg Leu Leu Asp Glu Tyr Asn Leu Val Arg Ser Pro Gln Leu His
1198 660 665 670
1199
1200 Gly Ala Pro Leu Gly Gly Thr Pro Thr Leu Ser Pro Pro Leu Cys Ser
1201 675 680 685
1202
1203 Pro Asn Gly Tyr Leu Gly Ser Leu Lys Pro Gly Val Gln Gly Lys Lys
1204 690 695 700
1205
1206 Val Arg Lys Pro Ser Ser Lys Gly Leu Ala Cys Gly Ser Lys Glu Ala
1207 705 710 715 720
1208
1209 Lys Asp Leu Lys Ala Arg Arg Lys Lys Ser Gln Asp Gly Lys Gly Cys
1210 725 730 735
1211
1212 Leu Leu Asp Ser Ser Gly Met Leu Ser Pro Val Asp Ser Leu Glu Ser
1213 740 745 750
1214
1215 Pro His Gly Tyr Leu Ser Asp Val Ala Ser Pro Pro Leu Leu Pro Ser
1216 755 760 765
1217
1218 Pro Phe Gln Gln Ser Pro Ser Val Pro Leu Asn His Leu Pro Gly Met
1219 770 775 780
1220
1221 Pro Asp Thr His Leu Gly Ile Gly His Leu Asn Val Ala Ala Lys Pro
1222 785 790 795 800
1223
1224 Glu Met Ala Ala Leu Gly Gly Gly Arg Leu Ala Phe Glu Thr Gly

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:58:18

INPUT SET: S1376.raw

1225 805 810 815
1226
1227 Pro Pro Arg Leu Ser His Leu Pro Val Ala Ser Gly Thr Ser Thr Val
1228 820 825 830
1229
1230 Leu Gly Ser Ser Ser Gly Gly Ala Leu Asn Phe Thr Val Gly Gly Ser
1231 835 840 845
1232
1233 Thr Ser Leu Asn Gly Gln Cys Glu Trp Leu Ser Arg Leu Gln Ser Gly
1234 850 855 860
1235
1236 Met Val Pro Asn Gln Tyr Asn Pro Leu Arg Gly Ser Val Ala Pro Gly
1237 865 870 875 880
1238
1239 Pro Leu Ser Thr Gln Ala Pro Ser Leu Gln His Gly Met Val Gly Pro
1240 885 890 895
1241
1242 Leu His Ser Ser Leu Ala Ala Ser Ala Leu Ser Gln Met Met Ser Tyr
1243 900 905 910
1244
1245 Gln Gly Leu Pro Ser Thr Arg Leu Ala Thr Gln Pro His Leu Val Gln
1246 915 920 925
1247
1248 Thr Gln Gln Val Gln Pro Gln Asn Leu Gln Met Gln Gln Gln Asn Leu
1249 930 935 940
1250
1251 Gln Pro Ala Asn Ile Gln Gln Gln Ser Leu Gln Pro Pro Pro Pro
1252 945 950 955 960
1253
1254 Pro Pro Gln Pro His Leu Gly Val Ser Ser Ala Ala Ser Gly His Leu
1255 965 970 975
1256
1257 Gly Arg Ser Phe Leu Ser Gly Glu Pro Ser Gln Ala Asp Val Gln Pro
1258 980 985 990
1259
1260 Leu Gly Pro Ser Ser Leu Ala Val His Thr Ile Leu Pro Gln Glu Ser
1261 995 1000 1005
1262
1263 Pro Ala Leu Pro Thr Ser Leu Pro Ser Ser Leu Val Pro Pro Val Thr
1264 1010 1015 1020
1265
1266 Ala Ala Gln Phe Leu Thr Pro Pro Ser Gln His Ser Tyr Ser Ser Pro
1267 1025 1030 1035 1040
1268
1269 Val Asp Asn Thr Pro Ser His Gln Leu Gln Val Pro Val Pro Val Met
1270 1045 1050 1055
1271
1272 Val Met Ile Arg Ser Ser Asp Pro Ser Lys Gly Ser Ser Ile Leu Ile
1273 1060 1065 1070
1274
1275 Glu Ala Pro Asp Ser Trp

INPUT SET: S1376.raw

1276 1075

1277

1278 (2) INFORMATION FOR SEQ ID NO:12:

1279

1280 (i) SEQUENCE CHARACTERISTICS:

1281 (A) LENGTH: 4268 base pairs

1282 (B) TYPE: nucleic acid

1283 (C) STRANDEDNESS: double

1284 (D) TOPOLOGY: unknown

1285

1286 (ii) MOLECULE TYPE: cDNA

1287

1288

1289 (ix) FEATURE:

1290 (A) NAME/KEY: CDS

1291 (B) LOCATION: 2..1972

1292

1293

1294 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

1295

1296 G GAG GTG GAT GTG TTA GAT GTG AAT GTC CGT GGC CCA GAT GGC TGC	46
1297 Glu Val Asp Val Leu Asp Val Asn Val Arg Gly Pro Asp Gly Cys	
1298 1 5 10 15	
1299	
1300 ACC CCA TTG ATG TTG GCT TCT CTC CGA GGA GGC AGC TCA GAT TTG AGT	94
1301 Thr Pro Leu Met Leu Ala Ser Leu Arg Gly Gly Ser Ser Asp Leu Ser	
1302 20 25 30	
1303	
1304 GAT GAA GAT GAA GAT GCA GAG GAC TCT TCT GCT AAC ATC ATC ACA GAC	142
1305 Asp Glu Asp Glu Asp Ala Glu Asp Ser Ser Ala Asn Ile Ile Thr Asp	
1306 35 40 45	
1307	
1308 TTG GTC TAC CAG GGT GCC AGC CTC CAG GCC CAG ACA GAC CGG ACT GGT	190
1309 Leu Val Tyr Gln Gly Ala Ser Leu Gln Ala Gln Thr Asp Arg Thr Gly	
1310 50 55 60	
1311	
1312 GAG ATG GCC CTG CAC CTT GCA GCC CGC TAC TCA CGG GCT GAT GCT GCC	238
1313 Glu Met Ala Leu His Leu Ala Ala Arg Tyr Ser Arg Ala Asp Ala Ala	
1314 65 70 75	
1315	
1316 AAG CGT CTC CTG GAT GCA GGT GCA GAT GCC AAT GCC CAG GAC AAC ATG	286
1317 Lys Arg Leu Leu Asp Ala Gly Ala Asp Ala Asn Ala Gln Asp Asn Met	
1318 80 85 90 95	
1319	
1320 GGC CGC TGT CCA CTC CAT GCT GCA GTG GCA GCT GAT GCC CAA GGT GTC	334
1321 Gly Arg Cys Pro Leu His Ala Ala Val Ala Ala Asp Ala Gln Gly Val	
1322 100 105 110	
1323	
1324 TTC CAG ATT CTG ATT CGC AAC CGA GTA ACT GAT CTA GAT GCC AGG ATG	382
1325 Phe Gln Ile Leu Ile Arg Asn Arg Val Thr Asp Leu Asp Ala Arg Met	
1326 115 120 125	

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

DATE: 02/04/94
TIME: 11:58:31

INPUT SET: S1376.raw

1327	AAT GAT GGT ACT ACA CCC CTG ATC CTG GCT GCC CGC CTG GCT GTG GAG	430
1328	Asn Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu	
1329	130 135 140	
1331		
1332	GGA ATG GTG GCA GAA CTG ATC AAC TGC CAA GCG GAT GTG AAT GCA GTG	478
1333	Gly Met Val Ala Glu Leu Ile Asn Cys Gln Ala Asp Val Asn Ala Val	
1334	145 150 155	
1335		
1336	GAT GAC CAT GGA AAA TCT GCT CTT CAC TGG GCA GCT GCT GTC AAT AAT	526
1337	Asp Asp His Gly Lys Ser Ala Leu His Trp Ala Ala Ala Val Asn Asn	
1338	160 165 170 175	
1339		
1340	GTG GAG GCA ACT CTT TTG TTG AAA AAT GGG GCC AAC CGA GAC ATG	574
1341	Val Glu Ala Thr Leu Leu Leu Lys Asn Gly Ala Asn Arg Asp Met	
1342	180 185 190	
1343		
1344	CAG GAC AAC AAG GAA GAG ACA CCT CTG TTT CTT GCT GCC CGG GAG GGG	622
1345	Gln Asp Asn Lys Glu Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly	
1346	195 200 205	
1347		
1348	AGC TAT GAA GCA GCC AAG ATC CTG TTA GAC CAT TTT GCC AAT CGA GAC	670
1349	Ser Tyr Glu Ala Ala Lys Ile Leu Leu Asp His Phe Ala Asn Arg Asp	
1350	210 215 220	
1351		
1352	ATC ACA GAC CAT ATG GAT CGT CTT CCC CGG GAT GTG GCT CGG GAT CGC	718
1353	Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp Val Ala Arg Asp Arg	
1354	225 230 235	
1355		
1356	ATG CAC CAT GAC ATT GTG CGC CTT CTG GAT GAA TAC AAT GTG ACC CCA	766
1357	Met His His Asp Ile Val Arg Leu Leu Asp Glu Tyr Asn Val Thr Pro	
1358	240 245 250 255	
1359		
1360	AGC CCT CCA GGC ACC GTG TTG ACT TCT GCT CTC TCA CCT GTC ATC TGT	814
1361	Ser Pro Pro Gly Thr Val Leu Thr Ser Ala Leu Ser Pro Val Ile Cys	
1362	260 265 270	
1363		
1364	GGG CCC AAC AGA TCT TTC CTC AGC CTG AAG CAC ACC CCA ATG GGC AAG	862
1365	Gly Pro Asn Arg Ser Phe Leu Ser Leu Lys His Thr Pro Met Gly Lys	
1366	275 280 285	
1367		
1368	AAG TCT AGA CGG CCC AGT GCC AAG AGT ACC ATG CCT ACT AGC CTC CCT	910
1369	Lys Ser Arg Arg Pro Ser Ala Lys Ser Thr Met Pro Thr Ser Leu Pro	
1370	290 295 300	
1371		
1372	AAC CTT GCC AAG GAG GCA AAG GAT GCC AAG GGT AGT AGG AGG AAG AAG	958
1373	Asn Leu Ala Lys Glu Ala Lys Asp Ala Lys Gly Ser Arg Arg Lys Lys	
1374	305 310 315	
1375		
1376	TCT CTG AGT GAG AAG GTC CAA CTG TCT GAG AGT TCA GTA ACT TTA TCC	1006
1377	Ser Leu Ser Glu Lys Val Gln Leu Ser Glu Ser Ser Val Thr Leu Ser	

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:58:38

INPUT SET: S1376.raw

1378	320	325	330	335	
1379					
1380	CCT GTT GAT TCC CTA GAA TCT CCT CAC ACG TAT GTT TCC GAC ACC ACA				1054
1381	Pro Val Asp Ser Leu Glu Ser Pro His Thr Tyr Val Ser Asp Thr Thr				
1382	340	345	350		
1383					
1384	TCC TCT CCA ATG ATT ACA TCC CCT GGG ATC TTA CAG GCC TCA CCC AAC				1102
1385	Ser Ser Pro Met Ile Thr Ser Pro Gly Ile Leu Gln Ala Ser Pro Asn				
1386	355	360	365		
1387					
1388	CCT ATG TTG GCC ACT GCC CCT CCT GCC CCA GTC CAT GCC CAG CAT				1150
1389	Pro Met Leu Ala Thr Ala Ala Pro Pro Ala Pro Val His Ala Gln His				
1390	370	375	380		
1391					
1392	GCA CTA TCT TTT TCT AAC CTT CAT GAA ATG CAG CCT TTG GCA CAT GGG				1198
1393	Ala Leu Ser Phe Ser Asn Leu His Glu Met Gln Pro Leu Ala His Gly				
1394	385	390	395		
1395					
1396	GCC AGC ACT GTG CTT CCC TCA GTG AGC CAG TTG CTA TCC CAC CAC CAC				1246
1397	Ala Ser Thr Val Leu Pro Ser Val Ser Gln Leu Leu Ser His His His				
1398	400	405	410	415	
1399					
1400	ATT GTG TCT CCA GGC AGT GGC AGT GCT GGA AGC TTG AGT AGG CTC CAT				1294
1401	Ile Val Ser Pro Gly Ser Gly Ser Ala Gly Ser Leu Ser Arg Leu His				
1402	420	425	430		
1403					
1404	CCA GTC CCA GTC CCA GCA GAT TGG ATG AAC CGC ATG GAG GTG AAT GAG				1342
1405	Pro Val Pro Val Pro Ala Asp Trp Met Asn Arg Met Glu Val Asn Glu				
1406	435	440	445		
1407					
1408	ACC CAG TAC AAT GAG ATG TTT GGT ATG GTC CTG GCT CCA GCT GAG GGC				1390
1409	Thr Gln Tyr Asn Glu Met Phe Gly Met Val Leu Ala Pro Ala Glu Gly				
1410	450	455	460		
1411					
1412	ACC CAT CCT GGC ATA GCT CCC CAG AGC AGG CCA CCT GAA GGG AAG CAC				1438
1413	Thr His Pro Gly Ile Ala Pro Gln Ser Arg Pro Pro Glu Gly Lys His				
1414	465	470	475		
1415					
1416	ATA ACC ACC CCT CGG GAG CCC TTG CCC CCC ATT GTG ACT TTC CAG CTC				1486
1417	Ile Thr Thr Pro Arg Glu Pro Leu Pro Pro Ile Val Thr Phe Gln Leu				
1418	480	485	490	495	
1419					
1420	ATC CCT AAA GGC AGT ATT GCC CAA CCA GCG GGG GCT CCC CAG CCT CAG				1534
1421	Ile Pro Lys Gly Ser Ile Ala Gln Pro Ala Gly Ala Pro Gln Pro Gln				
1422	500	505	510		
1423					
1424	TCC ACC TGC CCT CCA GCT GTT GCG GGC CCC CTG CCC ACC ATG TAC CAG				1582
1425	Ser Thr Cys Pro Pro Ala Val Ala Gly Pro Leu Pro Thr Met Tyr Gln				
1426	515	520	525		
1427					
1428	ATT CCA GAA ATG GCC CGT TTG CCC AGT GTG GCT TTC CCC ACT GCC ATG				1630

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:58:45

INPUT SET: S1376.raw

1429	Ile Pro Glu Met Ala Arg Leu Pro Ser Val Ala Phe Pro Thr Ala Met			
1430	530	535	540	
1431				
1432	ATG CCC CAG CAG GAC GGG CAG GTA GCT CAG ACC ATT CTC CCA GCC TAT		1678	
1433	Met Pro Gln Gln Asp Gly Gln Val Ala Gln Thr Ile Leu Pro Ala Tyr			
1434	545	550	555	
1435				
1436	CAT CCT TTC CCA GCC TCT GTG GGC AAG TAC CCC ACA CCC CCT TCA CAG		1726	
1437	His Pro Phe Pro Ala Ser Val Gly Lys Tyr Pro Thr Pro Pro Ser Gln			
1438	560	565	570	575
1439				
1440	CAC AGT TAT GCT TCC TCA AAT GCT GCT GAG CGA ACA CCC AGT CAC AGT		1774	
1441	His Ser Tyr Ala Ser Ser Asn Ala Ala Glu Arg Thr Pro Ser His Ser			
1442	580	585	590	
1443				
1444	GGT CAC CTC CAG GGT GAG CAT CCC TAC CTG ACA CCA TCC CCA GAG TCT		1822	
1445	Gly His Leu Gln Gly Glu His Pro Tyr Leu Thr Pro Ser Pro Glu Ser			
1446	595	600	605	
1447				
1448	CCT GAC CAG TGG TCA AGT TCA TCA CCC CAC TCT GCT TCT GAC TGG TCA		1870	
1449	Pro Asp Gln Trp Ser Ser Ser Pro His Ser Ala Ser Asp Trp Ser			
1450	610	615	620	
1451				
1452	GAT GTG ACC ACC AGC CCT ACC CCT GGG GGT GCT GGA GGA GGT CAG CGG		1918	
1453	Asp Val Thr Thr Ser Pro Thr Pro Gly Gly Ala Gly Gly Gly Gln Arg			
1454	625	630	635	
1455				
1456	GGA CCT GGG ACA CAC ATG TCT GAG CCA CCA CAC AAC AAC ATG CAG GTT		1966	
1457	Gly Pro Gly Thr His Met Ser Glu Pro Pro His Asn Asn Met Gln Val			
1458	640	645	650	655
1459				
1460	TAT GCG TGAGAGAGTC CACCTCCAGT GTAGAGACAT AACTGACTTT TGTAAATGCT		2022	
1461	Tyr Ala			
1462				
1463				
1464	GCTGAGGAAC AAATGAAGGT CATCCGGGAG AGAAATGAAG AAATCTCTGG AGCCAGCTTC		2082	
1465				
1466	TAGAGGTAGG AAAGAGAAGA TGTTCTTATT CAGATAATGC AAGAGAAGCA ATTGTCAGT		2142	
1467				
1468	TTCACTGGGT ATCTGCAAGG CTTATTGATT ATTCTAATCT AATAAGACAA GTTTGTGGAA		2202	
1469				
1470	ATGCAAGATG AATACAAGCC TTGGGTCCAT GTTTACTCTC TTCTATTTGG AGAATAAGAT		2262	
1471				
1472	GGATGCTTAT TGAAGCCCAG ACATTCTTGC AGCTTGGACT GCATTTAAG CCCTGCAGGC		2322	
1473				
1474	TTCTGCCATA TCCATGAGAA GATTCTACAC TAGCGTCTG TTGGGAATTAGGCCCTGGAA		2382	
1475				
1476	TTCTGCCTGA ATTGACCTAC GCATCTCCTC CTCCTTGGAC ATTCTTTGT CTTCATTTGG		2442	
1477				
1478	TGCTTTGGT TTTGCACCTC TCCGTGATTG TAGCCCTACC AGCATGTTAT AGGGCAAGAC		2502	
1479				

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:58:51

INPUT SET: S1376.raw

1480	CTTTGTGCTT TTGATCATTC TGGCCCATGA AAGCAACTTT GGTCTCCTTT CCCCTCCTGT	2562
1481	CTTCCCGGTA TCCCTTGGAG TCTCACAGG TTTACTTTGG TATGGTTCTC AGCACAAACC	2622
1482	TTTCAAGTAT GTTGTTCCTT TGGAAAATGG ACATACTGTA TTGTGTTCTC CTGCATATAT	2682
1483	CATTCCCTGGA GAGAGAAGGG GAGAAGAATA CTTTCTTCA ACAAAATTTG GGGGCAGGAG	2742
1484	ATCCCTTCAA GAGGCTGCAC CTTAATTTT CTTGTCTGTG TGCAGGTCTT CATATAAACT	2802
1485	TTACCAGGAA GAAGGGTGTG AGTTTGTGT TTTTCTGTGT ATGGGCCTGG TCAGTGTAAA	2862
1486	GTTTTATCCT TGATAGTCTA GTTACTATGA CCCTCCCCAC TTTTTAAAAA CCAGAAAAAG	2922
1487	GTTTGAATG TTGGAATGAC CAAGAGACAA GTTAACTCGT GCAAGAGCCA GTTACCCACC	2982
1488	CACAGGTCCC CCTACTTCCT GCCAAGCATT CCATTGACTG CCTGTATGGA ACACATTTGT	3042
1489	CCCAGATCTG AGCATTCTAG GCCTGTTCA CTCACTCACC CAGCATATGA AACTAGTCTT	3102
1490	AACTGTTGAG CCTTCCTTT CATATCCACA GAAGACACTG TCTCAAATGT TGTACCCCTG	3162
1491	CCATTAGGA CTGAACCTTC CTTAGCCCAA GGGACCCAGT GACAGTTGTC TTCCGTTGT	3222
1492	CAGATGATCA GTCTCTACTG ATTATCTTGC TGCTTAAAGG CCTGCTCACC AATCTTCCTT	3282
1493	TCACACCGTG TGGTCCGTGT TACTGGTATA CCCAGTATGT TCTCACTGAA GACATGGACT	3342
1494	TTATATGTT AAGTGCAGGA ATTGGAAAGT TGGACTTGTT TTCTATGATC CAAAACAGCC	3402
1495	CTATAAGAAG GTTGGAAAAG GAGGAACAT ATAGCAGCCT TTGCTATTTT CTGCTACCAT	3462
1496	TTCTTTCCCT CTGAAGCGGC CATGACATT CTTTGGCAA CTAACGTAGA AACTAACAG	3522
1497	AACATTTCC TTTCTTAGAG TCACCTTTA GATGATAATG GACAACATA GACTTGCTCA	3582
1498	TTGTTCAAGAC TGATTGCCCT TCACCTGAAT CCACTCTCTG TATTCACTGCT CTTGGCAATT	3642
1499	TCTTTGACTT TCTTTAAGG GCAGAACAT TTTAGTTAAT TGTAGATAAA GAATAGTTT	3702
1500	CTTCCTCTTC TCCTTGGGCC AGTTAATAAT TGGTCCATGG CTACACTGCA ACTTCCGTCC	3762
1501	AGTGCTGTGA TGCCCATGAC ACCTGCAAAA TAAGTTCTGC CTGGGCATTT TGTAGATATT	3822
1502	AACAGGTGAA TTCCCGACTC TTTGGTTTG AATGACAGTT CTCATTCCCTT CTATGGCTGC	3882
1503	AAGTATGCAT CAGTGCTTCC CACTTACCTG ATTTGTCTGT CGGTGGCCCC ATATGAAAC	3942
1504	CCTGCGTGTGTC TGTTGGCATA ATAGTTACA AATGGTTTT TCAGTCCTAT CCAAATTTAT	4002
1505	TGAACCAACA AAAATAATTA CTTCTGCCCT GAGATAAGCA GATTAAGTTT GTTCATTCTC	4062

INPUT SET: S1376.raw

1531 TGCTTTATTC TCTCCATGTG GCAACATTCT GTCAGCCTCT TTCATAGTGT GCAAACATTT 4122
1532 1533 TATCATTCTA AATGGTGACT CTCTGCCCTT GGACCCATTT ATTATTCACA GATGGGGAGA 4182
1534 1535 ACCTATCTGC ATGGACCCTC ACCATCCTCT GTGCAGCACA CACAGTGCAG GGAGCCAGTG 4242
1536 1537 GCGATGGCGA TGACTTTCTT CCCCTG 4268
1538
1539
1540
1541 (2) INFORMATION FOR SEQ ID NO:13:
1542
1543 (i) SEQUENCE CHARACTERISTICS:
1544 (A) LENGTH: 657 amino acids
1545 (B) TYPE: amino acid
1546 (D) TOPOLOGY: unknown
1547
1548 (ii) MOLECULE TYPE: protein
1549
1550 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:
1551
1552 Glu Val Asp Val Leu Asp Val Asn Val Arg Gly Pro Asp Gly Cys Thr
1553 1 5 10 15
1554
1555 Pro Leu Met Leu Ala Ser Leu Arg Gly Gly Ser Ser Asp Leu Ser Asp
1556 20 25 30
1557
1558 Glu Asp Glu Asp Ala Glu Asp Ser Ser Ala Asn Ile Ile Thr Asp Leu
1559 35 40 45
1560
1561 Val Tyr Gln Gly Ala Ser Leu Gln Ala Gln Thr Asp Arg Thr Gly Glu
1562 50 55 60
1563
1564 Met Ala Leu His Leu Ala Ala Arg Tyr Ser Arg Ala Asp Ala Ala Lys
1565 65 70 75 80
1566
1567 Arg Leu Leu Asp Ala Gly Ala Asp Ala Asn Ala Gln Asp Asn Met Gly
1568 85 90 95
1569
1570 Arg Cys Pro Leu His Ala Ala Val Ala Ala Asp Ala Gln Gly Val Phe
1571 100 105 110
1572
1573 Gln Ile Leu Ile Arg Asn Arg Val Thr Asp Leu Asp Ala Arg Met Asn
1574 115 120 125
1575
1576 Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu Gly
1577 130 135 140
1578
1579 Met Val Ala Glu Leu Ile Asn Cys Gln Ala Asp Val Asn Ala Val Asp
1580 145 150 155 160
1581

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:59:05

INPUT SET: S1376.raw

1582 Asp His Gly Lys Ser Ala Leu His Trp Ala Ala Ala Val Asn Asn Val
1583 165 170 175
1584
1585 Glu Ala Thr Leu Leu Leu Leu Lys Asn Gly Ala Asn Arg Asp Met Gln
1586 180 185 190
1587
1588 Asp Asn Lys Glu Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly Ser
1589 195 200 205
1590
1591 Tyr Glu Ala Ala Lys Ile Leu Leu Asp His Phe Ala Asn Arg Asp Ile
1592 210 215 220
1593
1594 Thr Asp His Met Asp Arg Leu Pro Arg Asp Val Ala Arg Asp Arg Met
1595 225 230 235 240
1596
1597 His His Asp Ile Val Arg Leu Leu Asp Glu Tyr Asn Val Thr Pro Ser
1598 245 250 255
1599
1600 Pro Pro Gly Thr Val Leu Thr Ser Ala Leu Ser Pro Val Ile Cys Gly
1601 260 265 270
1602
1603 Pro Asn Arg Ser Phe Leu Ser Leu Lys His Thr Pro Met Gly Lys Lys
1604 275 280 285
1605
1606 Ser Arg Arg Pro Ser Ala Lys Ser Thr Met Pro Thr Ser Leu Pro Asn
1607 290 295 300
1608
1609 Leu Ala Lys Glu Ala Lys Asp Ala Lys Gly Ser Arg Arg Lys Lys Ser
1610 305 310 315 320
1611
1612 Leu Ser Glu Lys Val Gln Leu Ser Glu Ser Ser Val Thr Leu Ser Pro
1613 325 330 335
1614
1615 Val Asp Ser Leu Glu Ser Pro His Thr Tyr Val Ser Asp Thr Thr Ser
1616 340 345 350
1617
1618 Ser Pro Met Ile Thr Ser Pro Gly Ile Leu Gln Ala Ser Pro Asn Pro
1619 355 360 365
1620
1621 Met Leu Ala Thr Ala Ala Pro Pro Ala Pro Val His Ala Gln His Ala
1622 370 375 380
1623
1624 Leu Ser Phe Ser Asn Leu His Glu Met Gln Pro Leu Ala His Gly Ala
1625 385 390 395 400
1626
1627 Ser Thr Val Leu Pro Ser Val Ser Gln Leu Leu Ser His His His Ile
1628 405 410 415
1629
1630 Val Ser Pro Gly Ser Gly Ser Ala Gly Ser Leu Ser Arg Leu His Pro
1631 420 425 430
1632

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:59:11

INPUT SET: S1376.raw

1633 Val Pro Val Pro Ala Asp Trp Met Asn Arg Met Glu Val Asn Glu Thr
1634 435 440 445
1635
1636 Gln Tyr Asn Glu Met Phe Gly Met Val Leu Ala Pro Ala Glu Gly Thr
1637 450 455 460
1638
1639 His Pro Gly Ile Ala Pro Gln Ser Arg Pro Pro Glu Gly Lys His Ile
1640 465 470 475 480
1641
1642 Thr Thr Pro Arg Glu Pro Leu Pro Pro Ile Val Thr Phe Gln Leu Ile
1643 485 490 495
1644
1645 Pro Lys Gly Ser Ile Ala Gln Pro Ala Gly Ala Pro Gln Pro Gln Ser
1646 500 505 510
1647
1648 Thr Cys Pro Pro Ala Val Ala Gly Pro Leu Pro Thr Met Tyr Gln Ile
1649 515 520 525
1650
1651 Pro Glu Met Ala Arg Leu Pro Ser Val Ala Phe Pro Thr Ala Met Met
1652 530 535 540
1653
1654 Pro Gln Gln Asp Gly Gln Val Ala Gln Thr Ile Leu Pro Ala Tyr His
1655 545 550 555 560
1656
1657 Pro Phe Pro Ala Ser Val Gly Lys Tyr Pro Thr Pro Pro Ser Gln His
1658 565 570 575
1659
1660 Ser Tyr Ala Ser Ser Asn Ala Ala Glu Arg Thr Pro Ser His Ser Gly
1661 580 585 590
1662
1663 His Leu Gln Gly Glu His Pro Tyr Leu Thr Pro Ser Pro Glu Ser Pro
1664 595 600 605
1665
1666 Asp Gln Trp Ser Ser Ser Pro His Ser Ala Ser Asp Trp Ser Asp
1667 610 615 620
1668
1669 Val Thr Thr Ser Pro Thr Pro Gly Gly Ala Gly Gly Gly Gln Arg Gly
1670 625 630 635 640
1671
1672 Pro Gly Thr His Met Ser Glu Pro Pro His Asn Asn Met Gln Val Tyr
1673 645 650 655
1674
1675 Ala
1676
1677
1678 (2) INFORMATION FOR SEQ ID NO:14:
1679
1680 (i) SEQUENCE CHARACTERISTICS:
1681 (A) LENGTH: 77 amino acids
1682 (B) TYPE: amino acid
1683 (C) STRANDEDNESS: single

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:59:18

INPUT SET: S1376.raw

1684 (D) TOPOLOGY: unknown
1685
1686 (ii) MOLECULE TYPE: peptide
1687
1688
1689
1690 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:
1691
1692 Glu Asp Ile Asp Glu Cys Asp Gln Gly Ser Pro Cys Glu His Asn Gly
1693 1 5 10 15
1694
1695 Ile Cys Val Asn Thr Pro Gly Ser Tyr Arg Cys Asn Cys Ser Gln Gly
1696 20 25 30
1697
1698 Phe Thr Gly Pro Arg Cys Glu Thr Asn Ile Asn Glu Cys Glu Ser His
1699 35 40 45
1700
1701 Pro Cys Gln Asn Glu Gly Ser Cys Leu Asp Asp Pro Gly Thr Phe Arg
1702 50 55 60
1703
1704 Cys Val Cys Met Pro Gly Phe Thr Gly Thr Gln Cys Glu
1705 65 70 75
1706
1707 (2) INFORMATION FOR SEQ ID NO:15:
1708
1709 (i) SEQUENCE CHARACTERISTICS:
1710 (A) LENGTH: 78 amino acids
1711 (B) TYPE: amino acid
1712 (C) STRANDEDNESS: single
1713 (D) TOPOLOGY: unknown
1714
1715 (ii) MOLECULE TYPE: peptide
1716
1717
1718
1719 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:
1720
1721 Asn Asp Val Asp Glu Cys Ser Leu Gly Ala Asn Pro Cys Glu His Gly
1722 1 5 10 15
1723
1724 Gly Arg Cys Thr Asn Thr Leu Gly Ser Phe Gln Cys Asn Cys Pro Gln
1725 20 25 30
1726
1727 Gly Tyr Ala Gly Pro Arg Cys Glu Ile Asp Val Asn Glu Cys Leu Ser
1728 35 40 45
1729
1730 Asn Pro Cys Gln Asn Asp Ser Thr Cys Leu Asp Gln Ile Gly Glu Phe
1731 50 55 60
1732
1733 Gln Cys Ile Cys Met Pro Gly Tyr Glu Gly Leu Tyr Cys Glu
1734 65 70 75

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:59:25

INPUT SET: S1376.raw

1735
1736
1737 (2) INFORMATION FOR SEQ ID NO:16:
1738
1739 (i) SEQUENCE CHARACTERISTICS:
1740 (A) LENGTH: 654 amino acids
1741 (B) TYPE: amino acid
1742 (C) STRANDEDNESS: single
1743 (D) TOPOLOGY: unknown
1744
1745 (ii) MOLECULE TYPE: peptide
1746
1747
1748
1749
1750 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:
1751
1752 Thr Pro Pro Gln Gly Glu Ile Glu Ala Asp Cys Met Asp Val Asn Val
1753 1 5 10 15
1754
1755 Arg Gly Pro Asp Gly Phe Thr Pro Leu Met Ile Ala Ser Cys Ser Gly
1756 20 25 30
1757
1758 Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu Asp Ala Ser Ala
1759 35 40 45
1760
1761 Asn Met Ile Ser Asp Phe Ile Gly Gln Gly Ala Gln Leu His Asn Gln
1762 50 55 60
1763
1764 Thr Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala Ala Arg Tyr Ala
1765 65 70 75 80
1766
1767 Arg Ala Asp Ala Ala Lys Arg Leu Leu Glu Ser Ser Ala Asp Ala Asn
1768 85 90 95
1769
1770 Val Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala Ala Val Ala Ala
1771 100 105 110
1772
1773 Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn Arg Ala Thr Asp
1774 115 120 125
1775
1776 Leu Asp Ala Arg Met Phe Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala
1777 130 135 140
1778
1779 Arg Leu Ala Val Glu Gly Met Val Glu Glu Leu Ile Asn Ala His Ala
1780 145 150 155 160
1781
1782 Asp Val Asn Ala Val Asp Glu Phe Gly Lys Ser Ala Leu His Trp Ala
1783 165 170 175
1784
1785 Ala Ala Val Asn Asn Val Asp Ala Ala Val Leu Leu Lys Asn Ser

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:59:32

INPUT SET: S1376.raw

1786 180 185 190
1787
1788 Ala Asn Lys Asp Met Gln Asn Asn Lys Glu Glu Thr Ser Leu Phe Leu
1789 195 200 205
1790
1791 Ala Ala Arg Glu Gly Ser Tyr Glu Thr Ala Lys Val Leu Leu Asp His
1792 210 215 220
1793
1794 Tyr Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp
1795 225 230 235 240
1796
1797 Ile Ala Gln Glu Arg Met His His Asp Ile Val His Leu Leu Asp Glu
1798 245 250 255
1799
1800 Tyr Asn Leu Val Lys Ser Pro Thr Leu His Asn Gly Pro Leu Gly Ala
1801 260 265 270
1802
1803 Thr Thr Leu Ser Pro Pro Ile Cys Ser Pro Asn Gly Tyr Met Gly Asn
1804 275 280 285
1805
1806 Met Lys Pro Ser Val Gln Ser Lys Lys Ala Arg Lys Pro Ser Ile Lys
1807 290 295 300
1808
1809 Gly Asn Gly Cys Lys Glu Ala Lys Glu Leu Lys Ala Arg Arg Lys Lys
1810 305 310 315 320
1811
1812 Ser Gln Asp Gly Lys Thr Thr Leu Leu Asp Ser Gly Ser Ser Gly Val
1813 325 330 335
1814
1815 Leu Ser Pro Val Asp Ser Leu Glu Ser Thr His Gly Tyr Leu Ser Asp
1816 340 345 350
1817
1818 Val Ser Ser Pro Pro Leu Met Thr Ser Pro Phe Gln Gln Ser Pro Ser
1819 355 360 365
1820
1821 Met Pro Leu Asn His Leu Thr Ser Met Pro Glu Ser Gln Leu Gly Met
1822 370 375 380
1823
1824 Asn His Ile Asn Met Ala Thr Lys Gln Glu Met Ala Ala Gly Ser Asn
1825 385 390 395 400
1826
1827 Arg Met Ala Phe Asp Ala Met Val Pro Arg Leu Thr His Leu Asn Ala
1828 405 410 415
1829
1830 Ser Ser Pro Asn Thr Ile Met Ser Asn Gly Ser Met His Phe Thr Val
1831 420 425 430
1832
1833 Gly Gly Ala Pro Thr Met Asn Ser Gln Cys Asp Trp Leu Ala Arg Leu
1834 435 440 445
1835
1836 Gln Asn Gly Met Val Gln Asn Gln Tyr Asp Pro Ile Arg Asn Gly Ile

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:59:39

INPUT SET: S1376.raw

1837 450 455 460
1838
1839 Gln Gln Gly Asn Ala Gln Gln Ala Gln Ala Leu Gln His Gly Leu Met
1840 465 470 475 480
1841
1842 Thr Ser Leu His Asn Gly Leu Pro Ala Thr Thr Leu Ser Gln Met Met
1843 485 490 495
1844
1845 Thr Tyr Gln Ala Met Pro Asn Thr Arg Leu Ala Asn Gln Pro His Leu
1846 500 505 510
1847
1848 Met Gln Ala Gln Gln Met Gln Gln Gln Asn Leu Gln Leu His Gln
1849 515 520 525
1850
1851 Ser Met Gln Gln His His Asn Ser Ser Thr Thr Ser Thr His Ile
1852 530 535 540
1853
1854 Asn Ser Pro Phe Cys Ser Ser Asp Ile Ser Gln Thr Asp Leu Gln Gln
1855 545 550 555 560
1856
1857 Met Ser Ser Asn Asn Ile His Ser Val Met Pro Gln Asp Thr Gln Ile
1858 565 570 575
1859
1860 Phe Ala Ala Ser Leu Pro Ser Asn Leu Thr Gln Ser Met Thr Thr Ala
1861 580 585 590
1862
1863 Gln Phe Leu Thr Pro Pro Ser Gln His Ser Tyr Ser Ser Pro Met Asp
1864 595 600 605
1865
1866 Asn Thr Pro Ser His Gln Leu Gln Val Pro Asp His Pro Phe Leu Thr
1867 610 615 620
1868
1869 Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser
1870 625 630 635 640
1871
1872 Asn Met Ser Asp Trp Ser Glu Gly Ile Ser Ser Pro Pro Thr
1873 645 650
1874
1875 (2) INFORMATION FOR SEQ ID NO:17:
1876
1877 (i) SEQUENCE CHARACTERISTICS:
1878 (A) LENGTH: 666 amino acids
1879 (B) TYPE: amino acid
1880 (C) STRANDEDNESS: single
1881 (D) TOPOLOGY: unknown
1882
1883 (ii) MOLECULE TYPE: peptide
1884
1885
1886
1887 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:59:45

INPUT SET: S1376.raw

1888
1889 Thr Pro Pro Gln Gly Glu Val Asp Ala Asp Cys Met Asp Val Asn Val
1890 1 5 10 15
1891
1892 Arg Gly Pro Asp Gly Phe Thr Pro Leu Met Ile Ala Ser Cys Ser Gly
1893 20 25 30
1894
1895 Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu Asp Ala Pro Ala
1896 35 40 45
1897
1898 Val Ile Ser Asp Phe Ile Tyr Gln Gly Ala Ser Leu His Asn Gln Thr
1899 50 55 60
1900
1901 Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala Ala Arg Tyr Ser Arg
1902 65 70 75 80
1903
1904 Ser Asp Ala Ala Lys Arg Leu Leu Glu Ala Ser Ala Asp Ala Asn Ile
1905 85 90 95
1906
1907 Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala Ala Val Ser Ala Asp
1908 100 105 110
1909
1910 Ala Gln Gly Val Phe Gln Ile Leu Leu Arg Asn Arg Ala Thr Asp Leu
1911 115 120 125
1912
1913 Asp Ala Arg Met His Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg
1914 130 135 140
1915
1916 Leu Ala Val Glu Gly Met Leu Glu Asp Leu Ile Asn Ser His Ala Asp
1917 145 150 155 160
1918
1919 Val Asn Ala Val Asp Asp Leu Gly Lys Ser Ala Leu His Trp Ala Ala
1920 165 170 175
1921
1922 Ala Val Asn Asn Val Asp Ala Ala Val Val Leu Leu Lys Asn Gly Ala
1923 180 185 190
1924
1925 Asn Lys Asp Met Gln Asn Asn Lys Glu Glu Thr Pro Leu Phe Leu Ala
1926 195 200 205
1927
1928 Ala Arg Glu Gly Ser Tyr Glu Thr Ala Lys Val Leu Leu Asp His Phe
1929 210 215 220
1930
1931 Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp Ile
1932 225 230 235 240
1933
1934 Ala Gln Glu Arg Met His His Asp Ile Val Arg Leu Leu Asp Glu Tyr
1935 245 250 255
1936
1937 Asn Leu Val Arg Ser Pro Gln Leu His Gly Thr Ala Leu Gly Gly Thr
1938 260 265 270

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:59:52

INPUT SET: S1376.raw

1939
 1940 Pro Thr Leu Ser Pro Thr Leu Cys Ser Pro Asn Gly Tyr Leu Gly Asn
 1941 275 280 285
 1942
 1943 Leu Lys Ser Ala Thr Gln Gly Lys Lys Ala Arg Lys Pro Ser Thr Lys
 1944 290 295 300
 1945
 1946 Gly Leu Ala Cys Ser Ser Lys Glu Ala Lys Asp Leu Lys Ala Arg Arg
 1947 305 310 315 320
 1948
 1949 Lys Lys Ser Gln Asp Gly Lys Gly Cys Leu Leu Asp Ser Ser Ser Met
 1950 325 330 335
 1951
 1952 Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His Gly Tyr Leu Ser Asp
 1953 340 345 350
 1954
 1955 Val Ala Ser Pro Pro Leu Pro Ser Pro Phe Gln Gln Ser Pro Ser Met
 1956 355 360 365
 1957
 1958 Pro Leu Ser His Leu Pro Gly Met Pro Asp Thr His Leu Gly Ile Ser
 1959 370 375 380
 1960
 1961 His Leu Asn Val Ala Ala Lys Pro Glu Met Ala Ala Leu Ala Gly Gly
 1962 385 390 395 400
 1963
 1964 Ser Arg Leu Ala Phe Glu Pro Pro Pro Arg Leu Ser His Leu Pro
 1965 405 410 415
 1966
 1967 Val Ala Ser Ser Ala Ser Thr Val Leu Ser Thr Asn Gly Thr Gly Ala
 1968 420 425 430
 1969
 1970 Met Asn Phe Thr Val Gly Ala Pro Ala Ser Leu Asn Gly Gln Cys Glu
 1971 435 440 445
 1972
 1973 Trp Leu Pro Arg Leu Gln Asn Gly Met Val Pro Ser Gln Tyr Asn Pro
 1974 450 455 460
 1975
 1976 Leu Arg Pro Gly Val Thr Pro Gly Thr Leu Ser Thr Gln Ala Ala Gly
 1977 465 470 475 480
 1978
 1979 Leu Gln His Gly Met Met Ser Pro Ile His Ser Ser Leu Ser Thr Asn
 1980 485 490 495
 1981
 1982 Thr Leu Ser Pro Ile Ile Tyr Gln Gly Leu Pro Asn Thr Arg Leu Ala
 1983 500 505 510
 1984
 1985 Thr Gln Pro His Leu Val Gln Thr Gln Gln Val Gln Pro Gln Asn Leu
 1986 515 520 525
 1987
 1988 Gln Ile Gln Pro Gln Asn Leu Gln Pro Pro Ser Gln Pro His Leu Ser
 1989 530 535 540

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 11:59:59

INPUT SET: S1376.raw

1990
1991 Val Ser Ser Ala Ala Asn Gly His Leu Gly Arg Ser Phe Leu Ser Gly
1992 545 550 555 560
1993
1994 Glu Pro Ser Gln Ala Asp Val Gln Pro Leu Gly Pro Ser Ser Leu Pro
1995 565 570 575
1996
1997 Val His Thr Ile Leu Pro Gln Glu Ser Gln Ala Leu Pro Thr Ser Leu
1998 580 585 590
1999
2000 Pro Ser Ser Met Val Pro Pro Met Thr Thr Thr Gln Phe Leu Thr Pro
2001 595 600 605
2002
2003 Pro Ser Gln His Ser Tyr Ser Ser Pro Val Asp Asn Thr Pro Ser
2004 610 615 620
2005
2006 His Gln Leu Gln Val Pro Glu His Pro Phe Leu Thr Pro Ser Pro Glu
2007 625 630 635 640
2008
2009 Ser Pro Asp Gln Trp Ser Ser Ser Arg His Ser Asn Ile Ser Asp
2010 645 650 655
2011
2012 Trp Ser Glu Gly Ile Ser Ser Pro Pro Thr
2013 660 665
2014
2015 (2) INFORMATION FOR SEQ ID NO:18:
2016
2017 (i) SEQUENCE CHARACTERISTICS:
2018 (A) LENGTH: 681 amino acids
2019 (B) TYPE: amino acid
2020 (C) STRANDEDNESS: single
2021 (D) TOPOLOGY: unknown
2022
2023 (ii) MOLECULE TYPE: peptide
2024
2025
2026
2027 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:
2028
2029 Thr Pro Pro Gln Gly Glu Val Asp Ala Asp Cys Met Asp Val Asn Val
2030 1 5 10 15
2031
2032 Arg Gly Pro Asp Gly Phe Thr Pro Leu Met Ile Ala Ser Cys Ser Gly
2033 20 25 30
2034
2035 Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu Asp Ala Pro Ala
2036 35 40 45
2037
2038 Val Ile Ser Asp Phe Ile Tyr Gln Gly Ala Ser Leu His Asn Gln Thr
2039 50 55 60
2040

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:00:06

INPUT SET: S1376.raw

2041 Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala Ala Arg Tyr Ser Arg
2042 65 70 75 80
2043
2044 Ser Asp Ala Ala Lys Arg Leu Leu Glu Ala Ser Ala Asp Ala Asn Ile
2045 85 90 95
2046
2047 Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala Ala Val Ser Ala Asp
2048 100 105 110
2049
2050 Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn Arg Ala Thr Asp Leu
2051 115 120 125
2052
2053 Asp Ala Arg Met His Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg
2054 130 135 140
2055
2056 Leu Ala Val Glu Gly Met Leu Glu Asp Leu Ile Asn Ser His Ala Asp
2057 145 150 155 160
2058
2059 Val Asn Ala Val Asp Asp Leu Gly Lys Ser Ala Leu His Trp Ala Ala
2060 165 170 175
2061
2062 Ala Val Asn Asn Val Asp Ala Ala Val Val Leu Leu Lys Asn Gly Ala
2063 180 185 190
2064
2065 Asn Lys Asp Met Gln Asn Asn Arg Glu Glu Thr Pro Leu Phe Leu Ala
2066 195 200 205
2067
2068 Ala Arg Glu Gly Ser Tyr Glu Thr Ala Lys Val Leu Leu Asp His Phe
2069 210 215 220
2070
2071 Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp Ile
2072 225 230 235 240
2073
2074 Ala Gln Glu Arg Met His His Asp Ile Val Arg Leu Leu Asp Glu Tyr
2075 245 250 255
2076
2077 Asn Leu Val Arg Ser Pro Gln Leu His Gly Ala Pro Leu Gly Gly Thr
2078 260 265 270
2079
2080 Pro Thr Leu Ser Pro Pro Leu Cys Ser Pro Asn Gly Tyr Leu Gly Ser
2081 275 280 285
2082
2083 Leu Lys Pro Gly Val Gln Gly Lys Lys Val Arg Lys Pro Ser Ser Lys
2084 290 295 300
2085
2086 Gly Leu Ala Cys Gly Ser Lys Glu Ala Lys Asp Leu Lys Ala Arg Arg
2087 305 310 315 320
2088
2089 Lys Lys Ser Gln Asp Gly Lys Gly Cys Leu Leu Asp Ser Ser Gly Met
2090 325 330 335
2091

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:00:13

INPUT SET: S1376.raw

2092 Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His Gly Tyr Leu Ser Asp
2093 340 345 350
2094
2095 Val Ala Ser Pro Pro Leu Leu Pro Ser Pro Phe Gln Gln Ser Pro Ser
2096 355 360 365
2097
2098 Val Pro Leu Asn His Leu Pro Gly Met Pro Asp Thr His Leu Gly Ile
2099 370 375 380
2100
2101 Gly His Leu Asn Val Ala Ala Lys Pro Glu Met Ala Ala Leu Gly Gly
2102 385 390 395 400
2103
2104 Gly Gly Arg Leu Ala Phe Glu Thr Gly Pro Pro Arg Leu Ser His Leu
2105 405 410 415
2106
2107 Pro Val Ala Ser Gly Thr Ser Thr Val Leu Gly Ser Ser Ser Gly Gly
2108 420 425 430
2109
2110 Ala Leu Asn Phe Thr Val Gly Gly Ser Thr Ser Leu Asn Gly Gln Cys
2111 435 440 445
2112
2113 Glu Trp Leu Ser Arg Leu Gln Ser Gly Met Val Pro Asn Gln Tyr Asn
2114 450 455 460
2115
2116 Pro Leu Arg Gly Ser Val Ala Pro Gly Pro Leu Ser Thr Gln Ala Pro
2117 465 470 475 480
2118
2119 Ser Leu Gln His Gly Met Val Gly Pro Leu His Ser Ser Leu Ala Ala
2120 485 490 495
2121
2122 Ser Ala Leu Ser Gln Met Met Ser Tyr Gln Gly Leu Pro Ser Thr Arg
2123 500 505 510
2124
2125 Leu Ala Thr Gln Pro His Leu Val Gln Thr Gln Gln Val Gln Pro Gln
2126 515 520 525
2127
2128 Asn Leu Gln Met Gln Gln Gln Asn Leu Gln Pro Ala Asn Ile Gln Gln
2129 530 535 540
2130
2131 Gln Gln Ser Leu Gln Pro Pro Pro Pro Pro Gln Pro His Leu Gly
2132 545 550 555 560
2133
2134 Val Ser Ser Ala Ala Ser Gly His Leu Gly Arg Ser Phe Leu Ser Gly
2135 565 570 575
2136
2137 Glu Pro Ser Gln Ala Asp Val Gln Pro Leu Gly Pro Ser Ser Leu Ala
2138 580 585 590
2139
2140 Val His Thr Ile Leu Pro Gln Glu Ser Pro Ala Leu Pro Thr Ser Leu
2141 595 600 605
2142

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:00:19

INPUT SET: S1376.raw

2143 Pro Ser Ser Leu Val Pro Pro Val Thr Ala Ala Gln Phe Leu Thr Pro
2144 610 615 620
2145
2146 Pro Ser Gln His Ser Tyr Ser Ser Pro Val Glu Asn Thr Pro Ser His
2147 625 630 635 640
2148
2149 Gln Leu Gln Val Pro Glu His Pro Phe Leu Thr Pro Ser Pro Glu Ser
2150 645 650 655
2151
2152 Pro Asp Gln Trp Ser Ser Ser Pro His Ser Asn Val Ser Asp Trp
2153 660 665 670
2154
2155 Ser Glu Gly Val Ser Ser Pro Pro Thr
2156 675 680
2157
2158 (2) INFORMATION FOR SEQ ID NO:19:
2159
2160 (i) SEQUENCE CHARACTERISTICS:
2161 (A) LENGTH: 2471 amino acids
2162 (B) TYPE: amino acid
2163 (C) STRANDEDNESS: single
2164 (D) TOPOLOGY: unknown
2165
2166 (ii) MOLECULE TYPE: peptide
2167
2168
2169
2170 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:
2171
2172 Met Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala Leu Trp
2173 1 5 10 15
2174
2175 Leu Cys Cys Ala Ala Pro Ala His Ala Leu Gln Cys Arg Asp Gly Tyr
2176 20 25 30
2177
2178 Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr His Asn Gly Thr
2179 35 40 45
2180
2181 Gly Tyr Cys Lys Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
2182 50 55 60
2183
2184 Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
2185 65 70 75 80
2186
2187 Ala Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Ser Gly Phe
2188 85 90 95
2189
2190 Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
2191 100 105 110
2192
2193 Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser Arg Asp Thr

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:00:26

INPUT SET: SI376.raw

2194 115 120 125
2195
2196 Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu Cys Gln Trp
2197 130 135 140
2198
2199 Thr Asp Ala Cys Leu Ser His Pro Cys Ala Asn Gly Ser Thr Cys Thr
2200 145 150 155 160
2201
2202 Thr Val Ala Asn Gln Phe Ser Cys Lys Cys Leu Thr Gly Phe Thr Gly
2203 165 170 175
2204
2205 Gln Lys Cys Glu Thr Asp Val Asn Glu Cys Asp Ile Pro Gly His Cys
2206 180 185 190
2207
2208 Gln His Gly Gly Thr Cys Leu Asn Leu Pro Gly Ser Tyr Gln Cys Gln
2209 195 200 205
2210
2211 Cys Pro Gln Gly Phe Thr Gly Gln Tyr Cys Asp Ser Leu Tyr Val Pro
2212 210 215 220
2213
2214 Cys Ala Pro Ser Pro Cys Val Asn Gly Gly Thr Cys Arg Gln Thr Gly
2215 225 230 235 240
2216
2217 Asp Phe Thr Phe Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly Ser Thr
2218 245 250 255
2219
2220 Cys Glu Arg Asn Ile Asp Asp Cys Pro Asn His Arg Cys Gln Asn Gly
2221 260 265 270
2222
2223 Gly Val Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro
2224 275 280 285
2225
2226 Gln Trp Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys Leu Leu
2227 290 295 300
2228
2229 Gln Pro Asn Ala Cys Gln Asn Gly Gly Thr Cys Ala Asn Arg Asn Gly
2230 305 310 315 320
2231
2232 Gly Tyr Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp Cys Ser
2233 325 330 335
2234
2235 Glu Asn Ile Asp Asp Cys Ala Phe Ala Ser Cys Thr Pro Gly Ser Thr
2236 340 345 350
2237
2238 Cys Ile Asp Arg Val Ala Ser Phe Ser Cys Met Cys Pro Glu Gly Lys
2239 355 360 365
2240
2241 Ala Gly Leu Leu Cys His Leu Asp Asp Ala Cys Ile Ser Asn Pro Cys
2242 370 375 380
2243
2244 His Lys Gly Ala Leu Cys Asp Thr Asn Pro Leu Asn Gly Gln Tyr Ile

INPUT SET: S1376.raw

2245 385 390 395 400
2246
2247 Cys Thr Cys Pro Gln Gly Tyr Lys Gly Ala Asp Cys Thr Glu Asp Val
2248 405 410 415
2249
2250 Asp Glu Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala Gly Lys
2251 420 425 430
2252
2253 Cys Val Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys Gly Tyr
2254 435 440 445
2255
2256 Ala Gly Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser Asp Pro
2257 450 455 460
2258
2259 Cys Gln Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe Thr Cys
2260 465 470 475 480
2261
2262 Leu Cys Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu Ile Asn
2263 485 490 495
2264
2265 Glu Cys Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val Asp Lys
2266 500 505 510
2267
2268 Val Asn Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly Pro Val
2269 515 520 525
2270
2271 Cys Gln Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu Asn Gly
2272 530 535 540
2273
2274 Ala Lys Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys Ala Thr
2275 545 550 555 560
2276
2277 Gly Phe Thr Gly Val Leu Cys Glu Glu Asn Ile Asp Asn Cys Asp Pro
2278 565 570 575
2279
2280 Asp Pro Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser Tyr Thr
2281 580 585 590
2282
2283 Cys Ile Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp Gln Ile
2284 595 600 605
2285
2286 Asp Glu Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys Ile Asp
2287 610 615 620
2288
2289 Leu Val Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser Gly Val
2290 625 630 635 640
2291
2292 Asn Cys Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys Ile His
2293 645 650 655
2294
2295 Gly Ile Cys Met Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys Ser Pro

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:00:40

INPUT SET: SI376.raw

2296 660 665 670
2297
2298 Gly Phe Thr Gly Gln Arg Cys Asn Ile Asp Ile Asp Glu Cys Ala Ser
2299 675 680 685
2300
2301 Asn Pro Cys Arg Lys Gly Ala Thr Cys Ile Asn Gly Val Asn Gly Phe
2302 690 695 700
2303
2304 Arg Cys Ile Cys Pro Glu Gly Pro His His Pro Ser Cys Tyr Ser Gln
2305 705 710 715 720
2306
2307 Val Asn Glu Cys Leu Ser Asn Pro Cys Ile His Gly Asn Cys Thr Gly
2308 725 730 735
2309
2310 Gly Leu Ser Gly Tyr Lys Cys Leu Cys Asp Ala Gly Trp Val Gly Ile
2311 740 745 750
2312
2313 Asn Cys Glu Val Asp Lys Asn Glu Cys Leu Ser Asn Pro Cys Gln Asn
2314 755 760 765
2315
2316 Gly Gly Thr Cys Asp Asn Leu Val Asn Gly Tyr Arg Cys Thr Cys Lys
2317 770 775 780
2318
2319 Lys Gly Phe Lys Gly Tyr Asn Cys Gln Val Asn Ile Asp Glu Cys Ala
2320 785 790 795 800
2321
2322 Ser Asn Pro Cys Leu Asn Gln Gly Thr Cys Phe Asp Asp Ile Ser Gly
2323 805 810 815
2324
2325 Tyr Thr Cys His Cys Val Leu Pro Tyr Thr Gly Lys Asn Cys Gln Thr
2326 820 825 830
2327
2328 Val Leu Ala Pro Cys Ser Pro Asn Pro Cys Glu Asn Ala Ala Val Cys
2329 835 840 845
2330
2331 Lys Glu Ser Pro Asn Phe Glu Ser Tyr Thr Cys Leu Cys Ala Pro Gly
2332 850 855 860
2333
2334 Trp Gln Gly Gln Arg Cys Thr Ile Asp Ile Asp Glu Cys Ile Ser Lys
2335 865 870 875 880
2336
2337 Pro Cys Met Asn His Gly Leu Cys His Asn Thr Gln Gly Ser Tyr Met
2338 885 890 895
2339
2340 Cys Glu Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu Asp Ile
2341 900 905 910
2342
2343 Asp Asp Cys Leu Ala Asn Pro Cys Gln Asn Gly Gly Ser Cys Met Asp
2344 915 920 925
2345
2346 Gly Val Asn Thr Phe Ser Cys Leu Cys Leu Pro Gly Phe Thr Gly Asp

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:00:47

INPUT SET: S1376.raw

2347 930 935 940
2348
2349 Lys Cys Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn
2350 945 950 955 960
2351
2352 Gly Gly Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Lys Cys Gln
2353 965 970 975
2354
2355 Ala Gly Phe Asp Gly Val His Cys Glu Asn Asn Ile Asn Glu Cys Thr
2356 980 985 990
2357
2358 Glu Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile Asn Ser
2359 995 1000 1005
2360
2361 Phe Ser Cys Leu Cys Pro Val Gly Phe Thr Gly Ser Phe Cys Leu His
2362 1010 1015 1020
2363
2364 Glu Ile Asn Glu Cys Ser Ser His Pro Cys Leu Asn Glu Gly Thr Cys
2365 1025 1030 1035 1040
2366
2367 Val Asp Gly Leu Gly Thr Tyr Arg Cys Ser Cys Pro Leu Gly Tyr Thr
2368 1045 1050 1055
2369
2370 Gly Lys Asn Cys Gln Thr Leu Val Asn Leu Cys Ser Arg Ser Pro Cys
2371 1060 1065 1070
2372
2373 Lys Asn Lys Gly Thr Cys Val Gln Lys Lys Ala Glu Ser Gln Cys Leu
2374 1075 1080 1085
2375
2376 Cys Pro Ser Gly Trp Ala Gly Ala Tyr Cys Asp Val Pro Asn Val Ser
2377 1090 1095 1100
2378
2379 Cys Asp Ile Ala Ala Ser Arg Arg Gly Val Leu Val Glu His Leu Cys
2380 1105 1110 1115 1120
2381
2382 Gln His Ser Gly Val Cys Ile Asn Ala Gly Asn Thr His Tyr Cys Gln
2383 1125 1130 1135
2384
2385 Cys Pro Leu Gly Tyr Thr Gly Ser Tyr Cys Glu Glu Gln Leu Asp Glu
2386 1140 1145 1150
2387
2388 Cys Ala Ser Asn Pro Cys Gln His Gly Ala Thr Cys Ser Asp Phe Ile
2389 1155 1160 1165
2390
2391 Gly Gly Tyr Arg Cys Glu Cys Val Pro Gly Tyr Gln Gly Val Asn Cys
2392 1170 1175 1180
2393
2394 Glu Tyr Glu Val Asp Glu Cys Gln Asn Gln Pro Cys Gln Asn Gly Gly
2395 1185 1190 1195 1200
2396
2397 Thr Cys Ile Asp Leu Val Asn His Phe Lys Cys Ser Cys Pro Pro Gly

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:00:53

INPUT SET: S1376.raw

2398 1205 1210 1215
2399
2400 Thr Arg Gly Leu Leu Cys Glu Glu Asn Ile Asp Asp Cys Ala Arg Gly
2401 1220 1225 1230
2402
2403 Pro His Cys Leu Asn Gly Gly Gln Cys Met Asp Arg Ile Gly Gly Tyr
2404 1235 1240 1245
2405
2406 Ser Cys Arg Cys Leu Pro Gly Phe Ala Gly Glu Arg Cys Glu Gly Asp
2407 1250 1255 1260
2408
2409 Ile Asn Glu Cys Leu Ser Asn Pro Cys Ser Ser Glu Gly Ser Leu Asp
2410 1265 1270 1275 1280
2411
2412 Cys Ile Gln Leu Thr Asn Asp Tyr Leu Cys Val Cys Arg Ser Ala Phe
2413 1285 1290 1295
2414
2415 Thr Gly Arg His Cys Glu Thr Phe Val Asp Val Cys Pro Gln Met Pro
2416 1300 1305 1310
2417
2418 Cys Leu Asn Gly Gly Thr Cys Ala Val Ala Ser Asn Met Pro Asp Gly
2419 1315 1320 1325
2420
2421 Phe Ile Cys Arg Cys Pro Pro Gly Phe Ser Gly Ala Arg Cys Gln Ser
2422 1330 1335 1340
2423
2424 Ser Cys Gly Gln Val Lys Cys Arg Lys Gly Glu Gln Cys Val His Thr
2425 1345 1350 1355 1360
2426
2427 Ala Ser Gly Pro Arg Cys Phe Cys Pro Ser Pro Arg Asp Cys Glu Ser
2428 1365 1370 1375
2429
2430 Gly Cys Ala Ser Ser Pro Cys Gln His Gly Gly Ser Cys His Pro Gln
2431 1380 1385 1390
2432
2433 Arg Gln Pro Pro Tyr Tyr Ser Cys Gln Cys Ala Pro Pro Phe Ser Gly
2434 1395 1400 1405
2435
2436 Ser Arg Cys Glu Leu Tyr Thr Ala Pro Pro Ser Thr Pro Pro Ala Thr
2437 1410 1415 1420
2438
2439 Cys Leu Ser Gln Tyr Cys Ala Asp Lys Ala Arg Asp Gly Val Cys Asp
2440 1425 1430 1435 1440
2441
2442 Glu Ala Cys Asn Ser His Ala Cys Gln Trp Asp Gly Gly Asp Cys Ser
2443 1445 1450 1455
2444
2445 Leu Thr Met Glu Asn Pro Trp Ala Asn Cys Ser Ser Pro Leu Pro Cys
2446 1460 1465 1470
2447
2448 Trp Asp Tyr Ile Asn Asn Gln Cys Asp Glu Leu Cys Asn Thr Val Glu

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:01:00

INPUT SET: S1376.raw

2449 1475 1480 1485
2450
2451 Cys Leu Phe Asp Asn Phe Glu Cys Gln Gly Asn Ser Lys Thr Cys Lys
2452 1490 1495 1500
2453
2454 Tyr Asp Lys Tyr Cys Ala Asp His Phe Lys Asp Asn His Cys Asn Gln
2455 1505 1510 1515 1520
2456
2457 Gly Cys Asn Ser Glu Glu Cys Gly Trp Asp Gly Leu Asp Cys Ala Ala
2458 1525 1530 1535
2459
2460 Asp Gln Pro Glu Asn Leu Ala Glu Gly Thr Leu Val Ile Val Val Leu
2461 1540 1545 1550
2462
2463 Met Pro Pro Glu Gln Leu Leu Gln Asp Ala Arg Ser Phe Leu Arg Ala
2464 1555 1560 1565
2465
2466 Leu Gly Thr Leu Leu His Thr Asn Leu Arg Ile Lys Arg Asp Ser Gln
2467 1570 1575 1580
2468
2469 Gly Glu Leu Met Val Tyr Pro Tyr Tyr Gly Glu Lys Ser Ala Ala Met
2470 1585 1590 1595 1600
2471
2472 Lys Lys Gln Arg Met Thr Arg Arg Ser Leu Pro Gly Glu Gln Glu Gln
2473 1605 1610 1615
2474
2475 Glu Val Ala Gly Ser Lys Val Phe Leu Glu Ile Asp Asn Arg Gln Cys
2476 1620 1625 1630
2477
2478 Val Gln Asp Ser Asp His Cys Phe Lys Asn Thr Asp Ala Ala Ala Ala
2479 1635 1640 1645
2480
2481 Leu Leu Ala Ser His Ala Ile Gln Gly Thr Leu Ser Tyr Pro Leu Val
2482 1650 1655 1660
2483
2484 Ser Val Val Ser Glu Ser Leu Thr Pro Glu Arg Thr Gln Leu Leu Tyr
2485 1665 1670 1675 1680
2486
2487 Leu Leu Ala Val Ala Val Val Ile Ile Leu Phe Ile Ile Leu Leu Gly
2488 1685 1690 1695
2489
2490 Val Ile Met Ala Lys Arg Lys Arg Lys His Gly Ser Leu Trp Leu Pro
2491 1700 1705 1710
2492
2493 Glu Gly Phe Thr Leu Arg Arg Asp Ala Ser Asn His Lys Arg Arg Glu
2494 1715 1720 1725
2495
2496 Pro Val Gly Gln Asp Ala Val Gly Leu Lys Asn Leu Ser Val Gln Val
2497 1730 1735 1740
2498
2499 Ser Glu Ala Asn Leu Ile Gly Thr Gly Thr Ser Glu His Trp Val Asp

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:01:07

INPUT SET: SI376.raw

2500	1745	1750	1755	1760
2501				
2502	Asp Glu Gly Pro Gln Pro Lys Lys Val Lys Ala Glu Asp Glu Ala Leu			
2503	1765	1770	1775	
2504				
2505	Leu Ser Glu Glu Asp Asp Pro Ile Asp Arg Arg Pro Trp Thr Gln Gln			
2506	1780	1785	1790	
2507				
2508	His Leu Glu Ala Ala Asp Ile Arg Arg Thr Pro Ser Leu Ala Leu Thr			
2509	1795	1800	1805	
2510				
2511	Pro Pro Gln Ala Glu Gln Glu Val Asp Val Leu Asp Val Asn Val Arg			
2512	1810	1815	1820	
2513				
2514	Gly Pro Asp Gly Cys Thr Pro Leu Met Leu Ala Ser Leu Arg Gly Gly			
2515	1825	1830	1835	1840
2516				
2517	Ser Ser Asp Leu Ser Asp Glu Asp Glu Asp Ala Glu Asp Ser Ser Ala			
2518	1845	1850	1855	
2519				
2520	Asn Ile Ile Thr Asp Leu Val Tyr Gln Gly Ala Ser Leu Gln Ala Gln			
2521	1860	1865	1870	
2522				
2523	Thr Asp Arg Thr Gly Glu Met Ala Leu His Leu Ala Ala Arg Tyr Ser			
2524	1875	1880	1885	
2525				
2526	Arg Ala Asp Ala Ala Lys Arg Leu Leu Asp Ala Gly Ala Asp Ala Asn			
2527	1890	1895	1900	
2528				
2529	Ala Gln Asp Asn Met Gly Arg Cys Pro Leu His Ala Ala Val Ala Ala			
2530	1905	1910	1915	1920
2531				
2532	Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn Arg Val Thr Asp			
2533	1925	1930	1935	
2534				
2535	Leu Asp Ala Arg Met Asn Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala			
2536	1940	1945	1950	
2537				
2538	Arg Leu Ala Val Glu Gly Met Val Ala Glu Leu Ile Asn Cys Gln Ala			
2539	1955	1960	1965	
2540				
2541	Asp Val Asn Ala Val Asp Asp His Gly Lys Ser Ala Leu His Trp Ala			
2542	1970	1975	1980	
2543				
2544	Ala Ala Val Asn Asn Val Glu Ala Thr Leu Leu Leu Lys Asn Gly			
2545	1985	1990	1995	2000
2546				
2547	Ala Asn Arg Asp Met Gln Asp Asn Lys Glu Glu Thr Pro Leu Phe Leu			
2548	2005	2010	2015	
2549				
2550	Ala Ala Arg Glu Gly Ser Tyr Glu Ala Ala Lys Ile Leu Leu Asp His			

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:01:14

INPUT SET: S1376.raw

2551 2020 2025 2030
2552
2553 Phe Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp
2554 2035 2040 2045
2555
2556 Val Ala Arg Asp Arg Met His His Asp Ile Val Arg Leu Leu Asp Glu
2557 2050 2055 2060
2558
2559 Tyr Asn Val Thr Pro Ser Pro Pro Gly Thr Val Leu Thr Ser Ala Leu
2560 2065 2070 2075 2080
2561
2562 Ser Pro Val Ile Cys Gly Pro Asn Arg Ser Phe Leu Ser Leu Lys His
2563 2085 2090 2095
2564
2565 Thr Pro Met Gly Lys Lys Ser Arg Arg Pro Ser Ala Lys Ser Thr Met
2566 2100 2105 2110
2567
2568 Pro Thr Ser Leu Pro Asn Leu Ala Lys Glu Ala Lys Asp Ala Lys Gly
2569 2115 2120 2125
2570
2571 Ser Arg Arg Lys Lys Ser Leu Ser Glu Lys Val Gln Leu Ser Glu Ser
2572 2130 2135 2140
2573
2574 Ser Val Thr Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His Thr Tyr
2575 2145 2150 2155 2160
2576
2577 Val Ser Asp Thr Thr Ser Ser Pro Met Ile Thr Ser Pro Gly Ile Leu
2578 2165 2170 2175
2579
2580 Gln Ala Ser Pro Asn Pro Met Leu Ala Thr Ala Ala Pro Pro Ala Pro
2581 2180 2185 2190
2582
2583 Val His Ala Gln His Ala Leu Ser Phe Ser Asn Leu His Glu Met Gln
2584 2195 2200 2205
2585
2586 Pro Leu Ala His Gly Ala Ser Thr Val Leu Pro Ser Val Ser Gln Leu
2587 2210 2215 2220
2588
2589 Leu Ser His His His Ile Val Ser Pro Gly Ser Gly Ser Ala Gly Ser
2590 2225 2230 2235 2240
2591
2592 Leu Ser Arg Leu His Pro Val Pro Val Pro Ala Asp Trp Met Asn Arg
2593 2245 2250 2255
2594
2595 Met Glu Val Asn Glu Thr Gln Tyr Asn Glu Met Phe Gly Met Val Leu
2596 2260 2265 2270
2597
2598 Ala Pro Ala Glu Gly Thr His Pro Gly Ile Ala Pro Gln Ser Arg Pro
2599 2275 2280 2285
2600
2601 Pro Glu Gly Lys His Ile Thr Thr Pro Arg Glu Pro Leu Pro Pro Ile

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:01:21

INPUT SET: S1376.raw

2602 2290 2295 2300
2603
2604 Val Thr Phe Gln Leu Ile Pro Lys Gly Ser Ile Ala Gln Pro Ala Gly
2605 2305 2310 2315 2320
2606
2607 Ala Pro Gln Pro Gln Ser Thr Cys Pro Pro Ala Val Ala Gly Pro Leu
2608 2325 2330 2335
2609
2610 Pro Thr Met Tyr Gln Ile Pro Glu Met Ala Arg Leu Pro Ser Val Ala
2611 2340 2345 2350
2612
2613 Phe Pro Thr Ala Met Met Pro Gln Gln Asp Gly Gln Val Ala Gln Thr
2614 2355 2360 2365
2615
2616 Ile Leu Pro Ala Tyr His Pro Phe Pro Ala Ser Val Gly Lys Tyr Pro
2617 2370 2375 2380
2618
2619 Thr Pro Pro Ser Gln His Ser Tyr Ala Ser Ser Asn Ala Ala Glu Arg
2620 2385 2390 2395 2400
2621
2622 Thr Pro Ser His Ser Gly His Leu Gln Gly Glu His Pro Tyr Leu Thr
2623 2405 2410 2415
2624
2625 Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser Pro His Ser
2626 2420 2425 2430
2627
2628 Ala Ser Asp Trp Ser Asp Val Thr Thr Ser Pro Thr Pro Gly Gly Ala
2629 2435 2440 2445
2630
2631 Gly Gly Gly Gln Arg Gly Pro Gly Thr His Met Ser Glu Pro Pro His
2632 2450 2455 2460
2633
2634 Asn Asn Met Gln Val Tyr Ala
2635 2465 2470
2636
2637 (2) INFORMATION FOR SEQ ID NO:20:
2638
2639 (i) SEQUENCE CHARACTERISTICS:
2640 (A) LENGTH: 2556 amino acids
2641 (B) TYPE: amino acid
2642 (C) STRANDEDNESS: single
2643 (D) TOPOLOGY: unknown
2644
2645 (ii) MOLECULE TYPE: peptide
2646
2647
2648
2649 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:
2650
2651 Met Pro Pro Leu Leu Ala Pro Leu Leu Cys Leu Ala Leu Leu Pro Ala
2652 1 5 10 15

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:01:28

INPUT SET: S1376.raw

2653
2654 Leu Ala Ala Arg Gly Pro Arg Cys Ser Gln Pro Gly Glu Thr Cys Leu
2655 20 25 30
2656
2657 Asn Gly Gly Lys Cys Glu Ala Ala Asn Gly Thr Glu Ala Cys Val Cys
2658 35 40 45
2659
2660 Gly Gly Ala Phe Val Gly Pro Arg Cys Gln Asp Pro Asn Pro Cys Leu
2661 50 55 60
2662
2663 Ser Thr Pro Cys Lys Asn Ala Gly Thr Cys His Val Val Asp Arg Arg
2664 65 70 75 80
2665
2666 Gly Val Ala Asp Tyr Ala Cys Ser Cys Ala Leu Gly Phe Ser Gly Pro
2667 85 90 95
2668
2669 Leu Cys Leu Thr Pro Leu Asp Asn Ala Cys Leu Thr Asn Pro Cys Arg
2670 100 105 110
2671
2672 Asn Gly Gly Thr Cys Asp Leu Leu Thr Leu Thr Glu Tyr Lys Cys Arg
2673 115 120 125
2674
2675 Cys Pro Pro Gly Trp Ser Gly Lys Ser Cys Gln Gln Ala Asp Pro Cys
2676 130 135 140
2677
2678 Ala Ser Asn Pro Cys Ala Asn Gly Gly Gln Cys Leu Pro Phe Glu Ala
2679 145 150 155 160
2680
2681 Ser Tyr Ile Cys His Cys Pro Pro Ser Phe His Gly Pro Thr Cys Arg
2682 165 170 175
2683
2684 Gln Asp Val Asn Glu Cys Gly Gln Lys Pro Arg Leu Cys Arg His Gly
2685 180 185 190
2686
2687 Gly Thr Cys His Asn Glu Val Gly Ser Tyr Arg Cys Val Cys Arg Ala
2688 195 200 205
2689
2690 Thr His Thr Gly Pro Asn Cys Glu Arg Pro Tyr Val Pro Cys Ser Pro
2691 210 215 220
2692
2693 Ser Pro Cys Gln Asn Gly Gly Thr Cys Arg Pro Thr Gly Asp Val Thr
2694 225 230 235 240
2695
2696 His Glu Cys Ala Cys Leu Pro Gly Phe Thr Gly Gln Asn Cys Glu Glu
2697 245 250 255
2698
2699 Asn Ile Asp Asp Cys Pro Gly Asn Asn Cys Lys Asn Gly Gly Ala Cys
2700 260 265 270
2701
2702 Val Asp Gly Val Asn Thr Tyr Asn Cys Pro Cys Pro Pro Glu Trp Thr
2703 275 280 285

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:01:34

INPUT SET: S1376.raw

2704
2705 Gly Gln Tyr Cys Thr Glu Asp Val Asp Glu Cys Gln Leu Met Pro Asn
2706 290 295 300
2707
2708 Ala Cys Gln Asn Gly Gly Thr Cys His Asn Thr His Gly Gly Tyr Asn
2709 305 310 315 320
2710
2711 Cys Val Cys Val Asn Gly Trp Thr Gly Glu Asp Cys Ser Glu Asn Ile
2712 325 330 335
2713
2714 Asp Asp Cys Ala Ser Ala Ala Cys Phe His Gly Ala Thr Cys His Asp
2715 340 345 350
2716
2717 Arg Val Ala Ser Phe Tyr Cys Glu Cys Pro His Gly Arg Thr Gly Leu
2718 355 360 365
2719
2720 Leu Cys His Leu Asn Asp Ala Cys Ile Ser Asn Pro Cys Asn Glu Gly
2721 370 375 380
2722
2723 Ser Asn Cys Asp Thr Asn Pro Val Asn Gly Lys Ala Ile Cys Thr Cys
2724 385 390 395 400
2725
2726 Pro Ser Gly Tyr Thr Gly Pro Ala Cys Ser Gln Asp Val Asp Glu Cys
2727 405 410 415
2728
2729 Ser Leu Gly Ala Asn Pro Cys Glu His Ala Gly Lys Cys Ile Asn Thr
2730 420 425 430
2731
2732 Leu Gly Ser Phe Glu Cys Gln Cys Leu Gln Gly Tyr Thr Gly Pro Arg
2733 435 440 445
2734
2735 Cys Glu Ile Asp Val Asn Glu Cys Val Ser Asn Pro Cys Gln Asn Asp
2736 450 455 460
2737
2738 Ala Thr Cys Leu Asp Gln Ile Gly Glu Phe Gln Cys Met Cys Met Pro
2739 465 470 475 480
2740
2741 Gly Tyr Glu Gly Val His Cys Glu Val Asn Thr Asp Glu Cys Ala Ser
2742 485 490 495
2743
2744 Ser Pro Cys Leu His Asn Gly Arg Cys Leu Asp Lys Ile Asn Glu Phe
2745 500 505 510
2746
2747 Gln Cys Glu Cys Pro Thr Gly Phe Thr Gly His Leu Cys Gln Tyr Asp
2748 515 520 525
2749
2750 Val Asp Glu Cys Ala Ser Thr Pro Cys Lys Asn Gly Ala Lys Cys Leu
2751 530 535 540
2752
2753 Asp Gly Pro Asn Thr Tyr Thr Cys Val Cys Thr Glu Gly Tyr Thr Gly
2754 545 550 555 560

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:01:41

INPUT SET: S1376.raw

2755
2756 Thr His Cys Glu Val Asp Ile Asp Glu Cys Asp Pro Asp Pro Cys His
2757 565 570 575
2758
2759 Tyr Gly Ser Cys Lys Asp Gly Val Ala Thr Phe Thr Cys Leu Cys Arg
2760 580 585 590
2761
2762 Pro Gly Tyr Thr Gly His His Cys Glu Thr Asn Ile Asn Glu Cys Ser
2763 595 600 605
2764
2765 Ser Gln Pro Cys Arg Leu Arg Gly Thr Cys Gln Asp Pro Asp Asn Ala
2766 610 615 620
2767
2768 Tyr Leu Cys Phe Cys Leu Lys Gly Thr Thr Gly Pro Asn Cys Glu Ile
2769 625 630 635 640
2770
2771 Asn Leu Asp Asp Cys Ala Ser Ser Pro Cys Asp Ser Gly Thr Cys Leu
2772 645 650 655
2773
2774 Asp Lys Ile Asp Gly Tyr Glu Cys Ala Cys Glu Pro Gly Tyr Thr Gly
2775 660 665 670
2776
2777 Ser Met Cys Asn Ser Asn Ile Asp Glu Cys Ala Gly Asn Pro Cys His
2778 675 680 685
2779
2780 Asn Gly Gly Thr Cys Glu Asp Gly Ile Asn Gly Phe Thr Cys Arg Cys
2781 690 695 700
2782
2783 Pro Glu Gly Tyr His Asp Pro Thr Cys Leu Ser Glu Val Asn Glu Cys
2784 705 710 715 720
2785
2786 Asn Ser Asn Pro Cys Val His Gly Ala Cys Arg Asp Ser Leu Asn Gly
2787 725 730 735
2788
2789 Tyr Lys Cys Asp Cys Asp Pro Gly Trp Ser Gly Thr Asn Cys Asp Ile
2790 740 745 750
2791
2792 Asn Asn Asn Glu Cys Glu Ser Asn Pro Cys Val Asn Gly Gly Thr Cys
2793 755 760 765
2794
2795 Lys Asp Met Thr Ser Gly Ile Val Cys Thr Cys Arg Glu Gly Phe Ser
2796 770 775 780
2797
2798 Gly Pro Asn Cys Gln Thr Asn Ile Asn Glu Cys Ala Ser Asn Pro Cys
2799 785 790 795 800
2800
2801 Leu Asn Lys Gly Thr Cys Ile Asp Asp Val Ala Gly Tyr Lys Cys Asn
2802 805 810 815
2803
2804 Cys Leu Leu Pro Tyr Thr Gly Ala Thr Cys Glu Val Val Leu Ala Pro
2805 820 825 830

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:01:48

INPUT SET: S1376.raw

2806
2807 Cys Ala Pro Ser Pro Cys Arg Asn Gly Gly Glu Cys Arg Gln Ser Glu
2808 835 840 845
2809
2810 Asp Tyr Glu Ser Phe Ser Cys Val Cys Pro Thr Ala Gly Ala Lys Gly
2811 850 855 860
2812
2813 Gln Thr Cys Glu Val Asp Ile Asn Glu Cys Val Leu Ser Pro Cys Arg
2814 865 870 875 880
2815
2816 His Gly Ala Ser Cys Gln Asn Thr His Gly Gly Tyr Arg Cys His Cys
2817 885 890 895
2818
2819 Gln Ala Gly Tyr Ser Gly Arg Asn Cys Glu Thr Asp Ile Asp Asp Cys
2820 900 905 910
2821
2822 Arg Pro Asn Pro Cys His Asn Gly Gly Ser Cys Thr Asp Gly Ile Asn
2823 915 920 925
2824
2825 Thr Ala Phe Cys Asp Cys Leu Pro Gly Phe Arg Gly Thr Phe Cys Glu
2826 930 935 940
2827
2828 Glu Asp Ile Asn Glu Cys Ala Ser Asp Pro Cys Arg Asn Gly Ala Asn
2829 945 950 955 960
2830
2831 Cys Thr Asp Cys Val Asp Ser Tyr Thr Cys Thr Cys Pro Ala Gly Phe
2832 965 970 975
2833
2834 Ser Gly Ile His Cys Glu Asn Asn Thr Pro Asp Cys Thr Glu Ser Ser
2835 980 985 990
2836
2837 Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile Asn Ser Phe Thr Cys
2838 995 1000 1005
2839
2840 Leu Cys Pro Pro Gly Phe Thr Gly Ser Tyr Cys Gln His Val Val Asn
2841 1010 1015 1020
2842
2843 Glu Cys Asp Ser Arg Pro Cys Leu Leu Gly Gly Thr Cys Gln Asp Gly
2844 1025 1030 1035 1040
2845
2846 Arg Gly Leu His Arg Cys Thr Cys Pro Gln Gly Tyr Thr Gly Pro Asn
2847 1045 1050 1055
2848
2849 Cys Gln Asn Leu Val His Trp Cys Asp Ser Ser Pro Cys Lys Asn Gly
2850 1060 1065 1070
2851
2852 Gly Lys Cys Trp Gln Thr His Thr Gln Tyr Arg Cys Glu Cys Pro Ser
2853 1075 1080 1085
2854
2855 Gly Trp Thr Gly Leu Tyr Cys Asp Val Pro Ser Val Ser Cys Glu Val
2856 1090 1095 1100

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:01:55

INPUT SET: S1376.raw

2857
2858 Ala Ala Gln Arg Gln Gly Val Asp Val Ala Arg Leu Cys Gln His Gly
2859 1105 1110 1115 1120
2860
2861 Gly Leu Cys Val Asp Ala Gly Asn Thr His His Cys Arg Cys Gln Ala
2862 1125 1130 1135
2863
2864 Gly Tyr Thr Gly Ser Tyr Cys Glu Asp Leu Val Asp Glu Cys Ser Pro
2865 1140 1145 1150
2866
2867 Ser Pro Cys Gln Asn Gly Ala Thr Cys Thr Asp Tyr Leu Gly Gly Tyr
2868 1155 1160 1165
2869
2870 Ser Cys Lys Cys Val Ala Gly Tyr His Gly Val Asn Cys Ser Glu Glu
2871 1170 1175 1180
2872
2873 Ile Asp Glu Cys Leu Ser His Pro Cys Gln Asn Gly Gly Thr Cys Leu
2874 1185 1190 1195 1200
2875
2876 Asp Leu Pro Asn Thr Tyr Lys Cys Ser Cys Pro Arg Gly Thr Gln Gly
2877 1205 1210 1215
2878
2879 Val His Cys Glu Ile Asn Val Asp Asp Cys Asn Pro Pro Val Asp Pro
2880 1220 1225 1230
2881
2882 Val Ser Arg Ser Pro Lys Cys Phe Asn Asn Gly Thr Cys Val Asp Gln
2883 1235 1240 1245
2884
2885 Val Gly Gly Tyr Ser Cys Thr Cys Pro Pro Gly Phe Val Gly Glu Arg
2886 1250 1255 1260
2887
2888 Cys Glu Gly Asp Val Asn Glu Cys Leu Ser Asn Pro Cys Asp Ala Arg
2889 1265 1270 1275 1280
2890
2891 Gly Thr Gln Asn Cys Val Gln Arg Val Asn Asp Phe His Cys Glu Cys
2892 1285 1290 1295
2893
2894 Arg Ala Gly His Thr Gly Arg Arg Cys Glu Ser Val Ile Asn Gly Cys
2895 1300 1305 1310
2896
2897 Lys Gly Lys Pro Cys Lys Asn Gly Gly Thr Cys Ala Val Ala Ser Asn
2898 1315 1320 1325
2899
2900 Thr Ala Arg Gly Phe Ile Cys Lys Cys Pro Ala Gly Phe Glu Gly Ala
2901 1330 1335 1340
2902
2903 Thr Cys Glu Asn Asp Ala Arg Thr Cys Gly Ser Leu Arg Cys Leu Asn
2904 1345 1350 1355 1360
2905
2906 Gly Gly Thr Cys Ile Ser Gly Pro Arg Ser Pro Thr Cys Leu Cys Leu
2907 1365 1370 1375

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:02:01

INPUT SET: S1376.raw

2908
2909 Gly Pro Phe Thr Gly Pro Glu Cys Gln Phe Pro Ala Ser Ser Pro Cys
2910 1380 1385 1390
2911
2912 Leu Gly Gly Asn Pro Cys Tyr Asn Gln Gly Thr Cys Glu Pro Thr Ser
2913 1395 1400 1405
2914
2915 Glu Ser Pro Phe Tyr Arg Cys Leu Cys Pro Ala Lys Phe Asn Gly Leu
2916 1410 1415 1420
2917
2918 Leu Cys His Ile Leu Asp Tyr Ser Phe Gly Gly Ala Gly Arg Asp
2919 1425 1430 1435 1440
2920
2921 Ile Pro Pro Pro Leu Ile Glu Ala Cys Glu Leu Pro Glu Cys Gln
2922 1445 1450 1455
2923
2924 Glu Asp Ala Gly Asn Lys Val Cys Ser Leu Gln Cys Asn Asn His Ala
2925 1460 1465 1470
2926
2927 Cys Gly Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp Pro Trp
2928 1475 1480 1485
2929
2930 Lys Asn Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser Asp Gly
2931 1490 1495 1500
2932
2933 His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp Gly Phe
2934 1505 1510 1515 1520
2935
2936 Asp Cys Gln Arg Ala Glu Gly Gln Cys Asn Pro Leu Tyr Asp Gln Tyr
2937 1525 1530 1535
2938
2939 Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys Asn Ser
2940 1540 1545 1550
2941
2942 Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val Pro Glu
2943 1555 1560 1565
2944
2945 Arg Leu Ala Ala Gly Thr Leu Val Val Val Leu Met Pro Pro Glu
2946 1570 1575 1580
2947
2948 Gln Leu Arg Asn Ser Ser Phe His Phe Leu Arg Glu Leu Ser Arg Val
2949 1585 1590 1595 1600
2950
2951 Leu His Thr Asn Val Val Phe Lys Arg Asp Ala His Gly Gln Gln Met
2952 1605 1610 1615
2953
2954 Ile Phe Pro Tyr Tyr Gly Arg Glu Glu Leu Arg Lys His Pro Ile
2955 1620 1625 1630
2956
2957 Lys Arg Ala Ala Glu Gly Trp Ala Ala Pro Asp Ala Leu Leu Gly Gln
2958 1635 1640 1645

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:02:07

INPUT SET: SI376.raw

2959
2960 Val Lys Ala Ser Leu Leu Pro Gly Gly Ser Glu Gly Gly Arg Arg Arg
2961 1650 1655 1660
2962
2963 Arg Glu Leu Asp Pro Met Asp Val Arg Gly Ser Ile Val Tyr Leu Glu
2964 1665 1670 1675 1680
2965
2966 Ile Asp Asn Arg Gln Cys Val Gln Ala Ser Ser Gln Cys Phe Gln Ser
2967 1685 1690 1695
2968
2969 Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala Ser Leu Gly Ser
2970 1700 1705 1710
2971
2972 Leu Asn Ile Pro Tyr Lys Ile Glu Ala Val Gln Ser Glu Thr Val Glu
2973 1715 1720 1725
2974
2975 Pro Pro Pro Pro Ala Gln Leu His Phe Met Tyr Val Ala Ala Ala Ala
2976 1730 1735 1740
2977
2978 Phe Val Leu Leu Phe Phe Val Gly Cys Gly Val Leu Leu Ser Arg Lys
2979 1745 1750 1755 1760
2980
2981 Arg Arg Arg Gln His Gly Gln Leu Trp Phe Pro Glu Gly Phe Lys Val
2982 1765 1770 1775
2983
2984 Ser Glu Ala Ser Lys Lys Arg Arg Glu Glu Leu Gly Glu Asp Ser
2985 1780 1785 1790
2986
2987 Val Gly Leu Lys Pro Leu Lys Asn Ala Ser Asp Gly Ala Leu Met Asp
2988 1795 1800 1805
2989
2990 Asp Asn Gln Asn Glu Trp Gly Asp Glu Asp Leu Glu Thr Lys Lys Phe
2991 1810 1815 1820
2992
2993 Arg Phe Glu Glu Pro Val Val Leu Pro Asp Leu Asp Asp Gln Thr Asp
2994 1825 1830 1835 1840
2995
2996 His Arg Gln Trp Thr Gln Gln His Leu Asp Ala Ala Asp Leu Arg Met
2997 1845 1850 1855
2998
2999 Ser Ala Met Ala Pro Thr Pro Pro Gln Gly Glu Val Asp Ala Asp Cys
3000 1860 1865 1870
3001
3002 Met Asp Val Asn Val Arg Gly Pro Asp Gly Phe Thr Pro Leu Met Ile
3003 1875 1880 1885
3004
3005 Ala Ser Cys Ser Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu
3006 1890 1895 1900
3007
3008 Glu Asp Ala Pro Ala Val Ile Ser Asp Phe Ile Tyr Gln Gly Ala Ser
3009 1905 1910 1915 1920

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:02:14

INPUT SET: S1376.raw

3010 Leu His Asn Gln Thr Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala
3011 1925 1930 1935
3012
3013 Ala Arg Tyr Ser Arg Ser Asp Ala Ala Lys Arg Leu Leu Glu Ala Ser
3014 1940 1945 1950
3015
3016 Ala Asp Ala Asn Ile Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala
3017 1955 1960 1965
3018
3019 Ala Val Ser Ala Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn
3020 1970 1975 1980
3021
3022 Arg Ala Thr Asp Leu Asp Ala Arg Met His Asp Gly Thr Thr Pro Leu
3023 1985 1990 1995 2000
3024
3025 Ile Leu Ala Ala Arg Leu Ala Val Glu Gly Met Leu Glu Asp Leu Ile
3026 2005 2010 2015
3027
3028 Asn Ser His Ala Asp Val Asn Ala Val Asp Asp Leu Gly Lys Ser Ala
3029 2020 2025 2030
3030
3031 Leu His Trp Ala Ala Ala Val Asn Asn Val Asp Ala Ala Val Val Leu
3032 2035 2040 2045
3033
3034 Leu Lys Asn Gly Ala Asn Lys Asp Met Gln Asn Asn Arg Glu Glu Thr
3035 2050 2055 2060
3036
3037 Pro Leu Phe Leu Ala Ala Arg Glu Gly Ser Tyr Glu Thr Ala Lys Val
3038 2065 2070 2075 2080
3039
3040 Leu Leu Asp His Phe Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg
3041 2085 2090 2095
3042
3043 Leu Pro Arg Asp Ile Ala Gln Glu Arg Met His His Asp Ile Val Arg
3044 2100 2105 2110
3045
3046 Leu Leu Asp Glu Tyr Asn Leu Val Arg Ser Pro Gln Leu His Gly Ala
3047 2115 2120 2125
3048
3049 Pro Leu Gly Gly Thr Pro Thr Leu Ser Pro Pro Leu Cys Ser Pro Asn
3050 2130 2135 2140
3051
3052 Gly Tyr Leu Gly Ser Leu Lys Pro Gly Val Gln Gly Lys Lys Val Arg
3053 2145 2150 2155 2160
3054
3055 Lys Pro Ser Ser Lys Gly Leu Ala Cys Gly Ser Lys Glu Ala Lys Asp
3056 2165 2170 2175
3057
3058 Leu Lys Ala Arg Arg Lys Lys Ser Gln Asp Gly Lys Gly Cys Leu Leu
3059 2180 2185 2190
3060

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:02:21

INPUT SET: S1376.raw

3061 Asp Ser Ser Gly Met Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His
3062 2195 2200 2205
3063
3064 Gly Tyr Leu Ser Asp Val Ala Ser Pro Pro Leu Leu Pro Ser Pro Phe
3065 2210 2215 2220
3066
3067 Gln Gln Ser Pro Ser Val Pro Leu Asn His Leu Pro Gly Met Pro Asp
3068 2225 2230 2235 2240
3069
3070 Thr His Leu Gly Ile Gly His Leu Asn Val Ala Ala Lys Pro Glu Met
3071 2245 2250 2255
3072
3073 Ala Ala Leu Gly Gly Gly Arg Leu Ala Phe Glu Thr Gly Pro Pro
3074 2260 2265 2270
3075
3076 Arg Leu Ser His Leu Pro Val Ala Ser Gly Thr Ser Thr Val Leu Gly
3077 2275 2280 2285
3078
3079 Ser Ser Ser Gly Gly Ala Leu Asn Phe Thr Val Gly Gly Ser Thr Ser
3080 2290 2295 2300
3081
3082 Leu Asn Gly Gln Cys Glu Trp Leu Ser Arg Leu Gln Ser Gly Met Val
3083 2305 2310 2315 2320
3084
3085 Pro Asn Gln Tyr Asn Pro Leu Arg Gly Ser Val Ala Pro Gly Pro Leu
3086 2325 2330 2335
3087
3088 Ser Thr Gln Ala Pro Ser Leu Gln His Gly Met Val Gly Pro Leu His
3089 2340 2345 2350
3090
3091 Ser Ser Leu Ala Ala Ser Ala Leu Ser Gln Met Met Ser Tyr Gln Gly
3092 2355 2360 2365
3093
3094 Leu Pro Ser Thr Arg Leu Ala Thr Gln Pro His Leu Val Gln Thr Gln
3095 2370 2375 2380
3096
3097 Gln Val Gln Pro Gln Asn Leu Gln Met Gln Gln Asn Leu Gln Pro
3098 2385 2390 2395 2400
3099
3100 Ala Asn Ile Gln Gln Gln Ser Leu Gln Pro Pro Pro Pro Pro Pro
3101 2405 2410 2415
3102
3103 Gln Pro His Leu Gly Val Ser Ser Ala Ala Ser Gly His Leu Gly Arg
3104 2420 2425 2430
3105
3106 Ser Phe Leu Ser Gly Glu Pro Ser Gln Ala Asp Val Gln Pro Leu Gly
3107 2435 2440 2445
3108
3109 Pro Ser Ser Leu Ala Val His Thr Ile Leu Pro Gln Glu Ser Pro Ala
3110 2450 2455 2460
3111

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

DATE: 02/04/94
TIME: 12:02:28

INPUT SET: S1376.raw

```

3112
3113     Leu Pro Thr Ser Leu Pro Ser Ser Leu Val Pro Pro Val Thr Ala Ala
3114     2465           2470           2475           2480
3115
3116     Gln Phe Leu Thr Pro Pro Ser Gln His Ser Tyr Ser Ser Pro Val Glu
3117           2485           2490           2495
3118
3119     Asn Thr Pro Ser His Gln Leu Gln Val Pro Glu His Pro Phe Leu Thr
3120           2500           2505           2510
3121
3122     Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser
3123           2515           2520           2525
3124
3125     Asn Val Ser Asp Trp Ser Glu Gly Val Ser Ser Pro Pro Thr Ser Met
3126           2530           2535           2540
3127
3128     Gln Ser Gln Ile Ala Arg Ile Pro Glu Ala Phe Lys
3129           2545           2550           2555

```

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9723 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

(A) NAME/KEY: CDS
(B) LOCATION: 10..7419

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

GGAATTCCG CCC GCC CTG CGC CCC GCT CTG CTG TGG GCG CTG CTG GCG	48
Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala	
1 5 10	
CTC TGG CTG TGC TGC GCG GCC CCC GCG CAT GCA TTG CAG TGT CGA GAT	96
Leu Trp Leu Cys Cys Ala Ala Pro Ala His Ala Leu Gln Cys Arg Asp	
15 20 25	
GGC TAT GAA CCC TGT GTA AAT GAA GGA ATG TGT GTT ACC TAC CAC AAT	144
Gly Tyr Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr His Asn	
30 35 40 45	
GGC ACA GGA TAC TGC AAA TGT CCA GAA GGC TTC TTG GGG GAA TAT TGT	192
Gly Thr Gly Tyr Cys Lys Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys	

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:02:35

INPUT SET: S1376.raw

3163	50	55	60	
3164				
3165	CAA CAT CGA GAC CCC TGT GAG AAG AAC CGC TGC CAG AAT GGT GGG ACT			240
3166	Gln His Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr			
3167	65	70	75	
3168				
3169	TGT GTG GCC CAG GCC ATG CTG GGG AAA GCC ACG TGC CGA TGT GCC TCA			288
3170	Cys Val Ala Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Ser			
3171	80	85	90	
3172				
3173	GGG TTT ACA GGA GAG GAC TGC CAG TAC TCA ACA TCT CAT CCA TGC TTT			336
3174	Gly Phe Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe			
3175	95	100	105	
3176				
3177	GTG TCT CGA CCC TGC CTG AAT GGC GGC ACA TGC CAT ATG CTC AGC CGG			384
3178	Val Ser Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser Arg			
3179	110	115	120	125
3180				
3181	GAT ACC TAT GAG TGC ACC TGT CAA GTC GGG TTT ACA GGT AAG GAG TGC			432
3182	Asp Thr Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu Cys			
3183	130	135	140	
3184				
3185	CAA TGG ACG GAT GCC TGC CTG TCT CAT CCC TGT GCA AAT GGA AGT ACC			480
3186	Gln Trp Thr Asp Ala Cys Leu Ser His Pro Cys Ala Asn Gly Ser Thr			
3187	145	150	155	
3188				
3189	TGT ACC ACT GTG GCC AAC CAG TTC TCC TGC AAA TGC CTC ACA GGC TTC			528
3190	Cys Thr Thr Val Ala Asn Gln Phe Ser Cys Lys Cys Leu Thr Gly Phe			
3191	160	165	170	
3192				
3193	ACA GGG CAG AAA TGT GAG ACT GAT GTC AAT GAG TGT GAC ATT CCA GGA			576
3194	Thr Gly Gln Lys Cys Glu Thr Asp Val Asn Glu Cys Asp Ile Pro Gly			
3195	175	180	185	
3196				
3197	CAC TGC CAG CAT GGT GGC ACC TGC CTC AAC CTG CCT GGT TCC TAC CAG			624
3198	His Cys Gln His Gly Gly Thr Cys Leu Asn Leu Pro Gly Ser Tyr Gln			
3199	190	195	200	205
3200				
3201	TGC CAG TGC CCT CAG GGC TTC ACA GGC CAG TAC TGT GAC AGC CTG TAT			672
3202	Cys Gln Cys Pro Gln Gly Phe Thr Gly Gln Tyr Cys Asp Ser Leu Tyr			
3203	210	215	220	
3204				
3205	GTG CCC TGT GCA CCC TCA CCT TGT GTC AAT GGA GGC ACC TGT CGG CAG			720
3206	Val Pro Cys Ala Pro Ser Pro Cys Val Asn Gly Gly Thr Cys Arg Gln			
3207	225	230	235	
3208				
3209	ACT GGT GAC TTC ACT TTT GAG TGC AAC TGC CTT CCA GGT TTT GAA GGG			768
3210	Thr Gly Asp Phe Thr Phe Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly			
3211	240	245	250	
3212				
3213	AGC ACC TGT GAG AGG AAT ATT GAT GAC TGC CCT AAC CAC AGG TGT CAG			816

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

DATE: 02/04/94
TIME: 12:02:42

INPUT SET: S1376.raw

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:02:48

INPUT SET: SI376.raw

3265	GAC CCC TGC CAG AAT GAT GCT ACC TGT CTG GAT AAG ATT GGA GGC TTC	1440
3266	Asp Pro Cys Gln Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe	
3267	465 470 475	
3268		
3269	ACA TGT CTG TGC ATG CCA GGT TTC AAA GGT GTG CAT TGT GAA TTA GAA	1488
3270	Thr Cys Leu Cys Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu	
3271	480 485 490	
3272		
3273	ATA AAT GAA TGT CAG AGC AAC CCT TGT GTG AAC AAT GGG CAG TGT GTG	1536
3274	Ile Asn Glu Cys Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val	
3275	495 500 505	
3276		
3277	GAT AAA GTC AAT CGT TTC CAG TGC CTG TGT CCT CCT GGT TTC ACT GGG	1584
3278	Asp Lys Val Asn Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly	
3279	510 515 520 525	
3280		
3281	CCA GTT TGC CAG ATT GAT ATT GAT GAC TGT TCC AGT ACT CCG TGT CTG	1632
3282	Pro Val Cys Gln Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu	
3283	530 535 540	
3284		
3285	AAT GGG GCA AAG TGT ATC GAT CAC CCG AAT GGC TAT GAA TGC CAG TGT	1680
3286	Asn Gly Ala Lys Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys	
3287	545 550 555	
3288		
3289	GCC ACA GGT TTC ACT GGT GTG TTG TGT GAG GAG AAC ATT GAC AAC TGT	1728
3290	Ala Thr Gly Phe Thr Gly Val Leu Cys Glu Asn Ile Asp Asn Cys	
3291	560 565 570	
3292		
3293	GAC CCC GAT CCT TGC CAC CAT GGT CAG TGT CAG GAT GGT ATT GAT TCC	1776
3294	Asp Pro Asp Pro Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser	
3295	575 580 585	
3296		
3297	TAC ACC TGC ATC TGC AAT CCC GGG TAC ATG GGC GCC ATC TGC AGT GAC	1824
3298	Tyr Thr Cys Ile Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp	
3299	590 595 600 605	
3300		
3301	CAG ATT GAT GAA TGT TAC AGC AGC CCT TGC CTG AAC GAT GGT CGC TGC	1872
3302	Gln Ile Asp Glu Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys	
3303	610 615 620	
3304		
3305	ATT GAC CTG GTC AAT GGC TAC CAG TGC AAC TGC CAG CCA GGC ACG TCA	1920
3306	Ile Asp Leu Val Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser	
3307	625 630 635	
3308		
3309	GGG GTT AAT TGT GAA ATT AAT TTT GAT GAC TGT GCA AGT AAC CCT TGT	1968
3310	Gly Val Asn Cys Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys	
3311	640 645 650	
3312		
3313	ATC CAT GGA ATC TGT ATG GAT GGC ATT AAT CGC TAC AGT TGT GTC TGC	2016
3314	Ile His Gly Ile Cys Met Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys	
3315	655 660 665	

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

DATE: 02/04/94
TIME: 12:02:55

INPUT SET: S1376.raw

3316	TCA CCA GGA TTC ACA GGG CAG AGA TGT AAC ATT GAC ATT GAT GAG TGT	2064
3317	Ser Pro Gly Phe Thr Gly Gln Arg Cys Asn Ile Asp Ile Asp Glu Cys	
3318	670 675 680 685	
3319		
3320		
3321	GCC TCC AAT CCC TGT CGC AAG GGT GCA ACA TGT ATC AAC GGT GTG AAT	2112
3322	Ala Ser Asn Pro Cys Arg Lys Gly Ala Thr Cys Ile Asn Gly Val Asn	
3323	690 695 700	
3324		
3325	GGT TTC CGC TGT ATA TGC CCC GAG GGA CCC CAT CAC CCC AGC TGC TAC	2160
3326	Gly Phe Arg Cys Ile Cys Pro Glu Gly Pro His His Pro Ser Cys Tyr	
3327	705 710 715	
3328		
3329	TCA CAG GTG AAC GAA TGC CTG AGC AAT CCC TGC ATC CAT GGA AAC TGT	2208
3330	Ser Gln Val Asn Glu Cys Leu Ser Asn Pro Cys Ile His Gly Asn Cys	
3331	720 725 730	
3332		
3333	ACT GGA GGT CTC AGT GGA TAT AAG TGT CTC TGT GAT GCA GGC TGG GTT	2256
3334	Thr Gly Leu Ser Gly Tyr Lys Cys Leu Cys Asp Ala Gly Trp Val	
3335	735 740 745	
3336		
3337	GGC ATC AAC TGT GAA GTG GAC AAA AAT GAA TGC CTT TCG AAT CCA TGC	2304
3338	Gly Ile Asn Cys Glu Val Asp Lys Asn Glu Cys Leu Ser Asn Pro Cys	
3339	750 755 760 765	
3340		
3341	CAG AAT GGA GGA ACT TGT GAC AAT CTG GTG AAT GGA TAC AGG TGT ACT	2352
3342	Gln Asn Gly Gly Thr Cys Asp Asn Leu Val Asn Gly Tyr Arg Cys Thr	
3343	770 775 780	
3344		
3345	TGC AAG AAG GGC TTT AAA GGC TAT AAC TGC CAG GTG AAT ATT GAT GAA	2400
3346	Cys Lys Lys Gly Phe Lys Gly Tyr Asn Cys Gln Val Asn Ile Asp Glu	
3347	785 790 795	
3348		
3349	TGT GCC TCA AAT CCA TGC CTG AAC CAA GGA ACC TGC TTT GAT GAC ATA	2448
3350	Cys Ala Ser Asn Pro Cys Leu Asn Gln Gly Thr Cys Phe Asp Asp Ile	
3351	800 805 810	
3352		
3353	AGT GGC TAC ACT TGC CAC TGT GTG CTG CCA TAC ACA GGC AAG AAT TGT	2496
3354	Ser Gly Tyr Thr Cys His Cys Val Leu Pro Tyr Thr Gly Lys Asn Cys	
3355	815 820 825	
3356		
3357	CAG ACA GTA TTG GCT CCC TGT TCC CCA AAC CCT TGT GAG AAT GCT GCT	2544
3358	Gln Thr Val Leu Ala Pro Cys Ser Pro Asn Pro Cys Glu Asn Ala Ala	
3359	830 835 840 845	
3360		
3361	GTT TGC AAA GAG TCA CCA AAT TTT GAG AGT TAT ACT TGC TTG TGT GCT	2592
3362	Val Cys Lys Glu Ser Pro Asn Phe Glu Ser Tyr Thr Cys Leu Cys Ala	
3363	850 855 860	
3364		
3365	CCT GGC TGG CAA GGT CAG CGG TGT ACC ATT GAC ATT GAC GAG TGT ATC	2640
3366	Pro Gly Trp Gln Gly Gln Arg Cys Thr Ile Asp Ile Asp Glu Cys Ile	

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:03:02

INPUT SET: S1376.raw

3367	865	870	875	
3368				
3369	TCC AAG CCC TGC ATG AAC CAT GGT CTC TGC CAT AAC ACC CAG GGC AGC			2688
3370	Ser Lys Pro Cys Met Asn His Gly Leu Cys His Asn Thr Gln Gly Ser			
3371	880	885	890	
3372				
3373	TAC ATG TGT GAA TGT CCA CCA GGC TTC AGT GGT ATG GAC TGT GAG GAG			2736
3374	Tyr Met Cys Glu Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu			
3375	895	900	905	
3376				
3377	GAC ATT GAT GAC TGC CTT GCC AAT CCT TGC CAG AAT GGA GGT TCC TGT			2784
3378	Asp Ile Asp Asp Cys Leu Ala Asn Pro Cys Gln Asn Gly Gly Ser Cys			
3379	910	915	920	925
3380				
3381	ATG GAT GGA GTG AAT ACT TTC TCC TGC CTC TGC CTT CCG GGT TTC ACT			2832
3382	Met Asp Gly Val Asn Thr Phe Ser Cys Leu Cys Leu Pro Gly Phe Thr			
3383	930	935	940	
3384				
3385	GGG GAT AAG TGC CAG ACA GAC ATG AAT GAG TGT CTG AGT GAA CCC TGT			2880
3386	Gly Asp Lys Cys Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys			
3387	945	950	955	
3388				
3389	AAG AAT GGA GGG ACC TGC TCT GAC TAC GTC AAC AGT TAC ACT TGC AAG			2928
3390	Lys Asn Gly Gly Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Lys			
3391	960	965	970	
3392				
3393	TGC CAG GCA GGA TTT GAT GGA GTC CAT TGT GAG AAC AAC ATC AAT GAG			2976
3394	Cys Gln Ala Gly Phe Asp Gly Val His Cys Glu Asn Asn Ile Asn Glu			
3395	975	980	985	
3396				
3397	TGC ACT GAG AGC TCC TGT TTC AAT GGT GGC ACA TGT GTT GAT GGG ATT			3024
3398	Cys Thr Glu Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile			
3399	990	995	1000	1005
3400				
3401	AAC TCC TTC TCT TGC TTG TGC CCT GTG GGT TTC ACT GGA TCC TTC TGC			3072
3402	Asn Ser Phe Ser Cys Leu Cys Pro Val Gly Phe Thr Gly Ser Phe Cys			
3403	1010	1015	1020	
3404				
3405	CTC CAT GAG ATC AAT GAA TGC AGC TCT CAT CCA TGC CTG AAT GAG GGA			3120
3406	Leu His Glu Ile Asn Glu Cys Ser Ser His Pro Cys Leu Asn Glu Gly			
3407	1025	1030	1035	
3408				
3409	ACG TGT GTT GAT GGC CTG GGT ACC TAC CGC TGC AGC TGC CCC CTG GGC			3168
3410	Thr Cys Val Asp Gly Leu Gly Thr Tyr Arg Cys Ser Cys Pro Leu Gly			
3411	1040	1045	1050	
3412				
3413	TAC ACT GGG AAA AAC TGT CAG ACC CTG GTG AAT CTC TGC AGT CGG TCT			3216
3414	Tyr Thr Gly Lys Asn Cys Gln Thr Leu Val Asn Leu Cys Ser Arg Ser			
3415	1055	1060	1065	
3416				
3417	CCA TGT AAA AAC AAA GGT ACT TGT GTT CAG AAA AAA GCA GAG TCC CAG			3264

**RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590A**

DATE: 02/04/94
TIME: 12:03:09

INPUT SET: S1376.raw

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:03:16

INPUT SET: S1376.raw

3469	CTG GAC TGT ATA CAG CTC ACC AAT GAC TAC CTG TGT GTT TGC CGT AGT	3888
3470	Leu Asp Cys Ile Gln Leu Thr Asn Asp Tyr Leu Cys Val Cys Arg Ser	
3471	1280 1285 1290	
3472		
3473	GCC TTT ACT GGC CGG CAC TGT GAA ACC TTC GTC GAT GTG TGT CCC CAG	3936
3474	Ala Phe Thr Gly Arg His Cys Glu Thr Phe Val Asp Val Cys Pro Gln	
3475	1295 1300 1305	
3476		
3477	ATG CCC TGC CTG AAT GGA GGG ACT TGT GCT GTG GCC AGT AAC ATG CCT	3984
3478	Met Pro Cys Leu Asn Gly Gly Thr Cys Ala Val Ala Ser Asn Met Pro	
3479	1310 1315 1320 1325	
3480		
3481	GAT GGT TTC ATT TGC CGT TGT CCC CCG GGA TTT TCC GGG GCA AGG TGC	4032
3482	Asp Gly Phe Ile Cys Arg Cys Pro Pro Gly Phe Ser Gly Ala Arg Cys	
3483	1330 1335 1340	
3484		
3485	CAG AGC AGC TGT GGA CAA GTG AAA TGT AGG AAG GGG GAG CAG TGT GTG	4080
3486	Gln Ser Ser Cys Gly Gln Val Lys Cys Arg Lys Gly Glu Gln Cys Val	
3487	1345 1350 1355	
3488		
3489	CAC ACC GCC TCT GGA CCC CGC TGC TTC TGC CCC AGT CCC CGG GAC TGC	4128
3490	His Thr Ala Ser Gly Pro Arg Cys Phe Cys Pro Ser Pro Arg Asp Cys	
3491	1360 1365 1370	
3492		
3493	GAG TCA GGC TGT GCC AGT AGC CCC TGC CAG CAC GGG GGC AGC TGC CAC	4176
3494	Glu Ser Gly Cys Ala Ser Ser Pro Cys Gln His Gly Gly Ser Cys His	
3495	1375 1380 1385	
3496		
3497	CCT CAG CGC CAG CCT CCT TAT TAC TCC TGC CAG TGT GCC CCA CCA TTC	4224
3498	Pro Gln Arg Gln Pro Pro Tyr Tyr Ser Cys Gln Cys Ala Pro Pro Phe	
3499	1390 1395 1400 1405	
3500		
3501	TCG GGT AGC CGC TGT GAA CTC TAC ACG GCA CCC CCC AGC ACC CCT CCT	4272
3502	Ser Gly Ser Arg Cys Glu Leu Tyr Thr Ala Pro Pro Ser Thr Pro Pro	
3503	1410 1415 1420	
3504		
3505	GCC ACC TGT CTG AGC CAG TAT TGT GCC GAC AAA GCT CGG GAT GGC GTC	4320
3506	Ala Thr Cys Leu Ser Gln Tyr Cys Ala Asp Lys Ala Arg Asp Gly Val	
3507	1425 1430 1435	
3508		
3509	TGT GAT GAG GCC TGC AAC AGC CAT GCC TGC CAG TGG GAT GGG GGT GAC	4368
3510	Cys Asp Glu Ala Cys Asn Ser His Ala Cys Gln Trp Asp Gly Gly Asp	
3511	1440 1445 1450	
3512		
3513	TGT TCT CTC ACC ATG GAG AAC CCC TGG GCC AAC TGC TCC TCC CCA CTT	4416
3514	Cys Ser Leu Thr Met Glu Asn Pro Trp Ala Asn Cys Ser Ser Pro Leu	
3515	1455 1460 1465	
3516		
3517	CCC TGC TGG GAT TAT ATC AAC AAC CAG TGT GAT GAG CTG TGC AAC ACG	4464
3518	Pro Cys Trp Asp Tyr Ile Asn Asn Gln Cys Asp Glu Leu Cys Asn Thr	
3519	1470 1475 1480 1485	

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:03:23

INPUT SET: S1376.raw

3520					
3521	GTC GAG TGC CTG TTT GAC AAC TTT GAA TGC CAG GGG AAC AGC AAG ACA				4512
3522	Val Glu Cys Leu Phe Asp Asn Phe Glu Cys Gln Gly Asn Ser Lys Thr				
3523	1490	1495	1500		
3524					
3525	TGC AAG TAT GAC AAA TAC TGT GCA GAC CAC TTC AAA GAC AAC CAC TGT				4560
3526	Cys Lys Tyr Asp Lys Tyr Cys Ala Asp His Phe Lys Asp Asn His Cys				
3527	1505	1510	1515		
3528					
3529	AAC CAG GGG TGC AAC AGT GAG GAG TGT GGT TGG GAT GGG CTG GAC TGT				4608
3530	Asn Gln Gly Cys Asn Ser Glu Glu Cys Gly Trp Asp Gly Leu Asp Cys				
3531	1520	1525	1530		
3532					
3533	GCT GCT GAC CAA CCT GAG AAC CTG GCA GAA GGT ACC CTG GTT ATT GTG				4656
3534	Ala Ala Asp Gln Pro Glu Asn Leu Ala Glu Gly Thr Leu Val Ile Val				
3535	1535	1540	1545		
3536					
3537	GTA TTG ATG CCA CCT GAA CAA CTG CTC CAG GAT GCT CGC AGC TTC TTG				4704
3538	Val Leu Met Pro Pro Glu Gln Leu Leu Gln Asp Ala Arg Ser Phe Leu				
3539	1550	1555	1560	1565	
3540					
3541	CGG GCA CTG GGT ACC CTG CTC CAC ACC AAC CTG CGC ATT AAG CGG GAC				4752
3542	Arg Ala Leu Gly Thr Leu Leu His Thr Asn Leu Arg Ile Lys Arg Asp				
3543	1570	1575	1580		
3544					
3545	TCC CAG GGG GAA CTC ATG GTG TAC CCC TAT TAT GGT GAG AAG TCA GCT				4800
3546	Ser Gln Gly Glu Leu Met Val Tyr Pro Tyr Tyr Gly Glu Lys Ser Ala				
3547	1585	1590	1595		
3548					
3549	GCT ATG AAG AAA CAG AGG ATG ACA CGC AGA TCC CTT CCT GGT GAA CAA				4848
3550	Ala Met Lys Lys Gln Arg Met Thr Arg Arg Ser Leu Pro Gly Glu Gln				
3551	1600	1605	1610		
3552					
3553	GAA CAG GAG GTG GCT GGC TCT AAA GTC TTT CTG GAA ATT GAC AAC CGC				4896
3554	Glu Gln Glu Val Ala Gly Ser Lys Val Phe Leu Glu Ile Asp Asn Arg				
3555	1615	1620	1625		
3556					
3557	CAG TGT GTT CAA GAC TCA GAC CAC TGC TTC AAG AAC ACG GAT GCA GCA				4944
3558	Gln Cys Val Gln Asp Ser Asp His Cys Phe Lys Asn Thr Asp Ala Ala				
3559	1630	1635	1640	1645	
3560					
3561	GCA GCT CTC CTG GCC TCT CAC GCC ATA CAG GGG ACC CTG TCA TAC CCT				4992
3562	Ala Ala Leu Leu Ala Ser His Ala Ile Gln Gly Thr Leu Ser Tyr Pro				
3563	1650	1655	1660		
3564					
3565	CTT GTG TCT GTC GTC AGT GAA TCC CTG ACT CCA GAA CGC ACT CAG CTC				5040
3566	Leu Val Ser Val Val Ser Glu Ser Leu Thr Pro Glu Arg Thr Gln Leu				
3567	1665	1670	1675		
3568					
3569	CTC TAT CTC CTT GCT GTT GTC ATC ATT CTG TTT ATT ATT CTG				5088
3570	Leu Tyr Leu Leu Ala Val Ala Val Val Ile Ile Leu Phe Ile Ile Leu				

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:03:29

INPUT SET: S1376.raw

3571	1680	1685	1690	
3572				
3573	CTG GGG GTA ATC ATG GCA AAA CGA AAG CGT AAG CAT GGC TCT CTC TGG			5136
3574	Leu Gly Val Ile Met Ala Lys Arg Lys Arg Lys His Gly Ser Leu Trp			
3575	1695	1700	1705	
3576				
3577	CTG CCT GAA GGT TTC ACT CTT CGC CGA GAT GCA AGC AAT CAC AAG CGT			5184
3578	Leu Pro Glu Gly Phe Thr Leu Arg Arg Asp Ala Ser Asn His Lys Arg			
3579	1710	1715	1720	1725
3580				
3581	CGT GAG CCA GTG GGA CAG GAT GCT GTG GGG CTG AAA AAT CTC TCA GTG			5232
3582	Arg Glu Pro Val Gly Gln Asp Ala Val Gly Leu Lys Asn Leu Ser Val			
3583	1730	1735	1740	
3584				
3585	CAA GTC TCA GAA GCT AAC CTA ATT GGT ACT GGA ACA AGT GAA CAC TGG			5280
3586	Gln Val Ser Glu Ala Asn Leu Ile Gly Thr Gly Thr Ser Glu His Trp			
3587	1745	1750	1755	
3588				
3589	GTC GAT GAT GAA GGG CCC CAG CCA AAG AAA GTC AAG GCT GAA GAT GAG			5328
3590	Val Asp Asp Glu Gly Pro Gln Pro Lys Lys Val Lys Ala Glu Asp Glu			
3591	1760	1765	1770	
3592				
3593	GCC TTA CTC TCA GAA GAA GAT GAC CCC ATT GAT CGA CGG CCA TGG ACA			5376
3594	Ala Leu Leu Ser Glu Glu Asp Asp Pro Ile Asp Arg Arg Pro Trp Thr			
3595	1775	1780	1785	
3596				
3597	CAG CAG CAC CTT GAA GCT GCA GAC ATC CGT AGG ACA CCA TCG CTG GCT			5424
3598	Gln Gln His Leu Glu Ala Ala Asp Ile Arg Arg Thr Pro Ser Leu Ala			
3599	1790	1795	1800	1805
3600				
3601	CTC ACC CCT CAG GCA GAG CAG GAG GTG GAT GTG TTA GAT GTG AAT			5472
3602	Leu Thr Pro Pro Gln Ala Glu Gln Glu Val Asp Val Leu Asp Val Asn			
3603	1810	1815	1820	
3604				
3605	GTC CGT GGC CCA GAT GGC TGC ACC CCA TTG ATG TTG GCT TCT CTC CGA			5520
3606	Val Arg Gly Pro Asp Gly Cys Thr Pro Leu Met Leu Ala Ser Leu Arg			
3607	1825	1830	1835	
3608				
3609	GGA GGC AGC TCA GAT TTG AGT GAT GAA GAT GCA GAG GAC TCT			5568
3610	Gly Gly Ser Ser Asp Leu Ser Asp Glu Asp Glu Asp Ala Glu Asp Ser			
3611	1840	1845	1850	
3612				
3613	TCT GCT AAC ATC ATC ACA GAC TTG GTC TAC CAG GGT GCC AGC CTC CAG			5616
3614	Ser Ala Asn Ile Ile Thr Asp Leu Val Tyr Gln Gly Ala Ser Leu Gln			
3615	1855	1860	1865	
3616				
3617	GCC CAG ACA GAC CGG ACT GGT GAG ATG GCC CTG CAC CTT GCA GCC CGC			5664
3618	Ala Gln Thr Asp Arg Thr Gly Glu Met Ala Leu His Leu Ala Ala Arg			
3619	1870	1875	1880	1885
3620				
3621	TAC TCA CGG GCT GAT GCT GCC AAG CGT CTC CTG GAT GCA GGT GCA GAT			5712

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:03:36

INPUT SET: SI376.raw

3622	Tyr Ser Arg Ala Asp Ala Ala Lys Arg Leu Leu Asp Ala Gly Ala Asp			
3623	1890	1895	1900	
3624				
3625	GCC AAT GCC CAG GAC AAC ATG GGC CGC TGT CCA CTC CAT GCT GCA GTG		5760	
3626	Ala Asn Ala Gln Asp Asn Met Gly Arg Cys Pro Leu His Ala Ala Val			
3627	1905	1910	1915	
3628				
3629	GCA GCT GAT GCC CAA GGT GTC TTC CAG ATT CTG ATT CGC AAC CGA GTA		5808	
3630	Ala Ala Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn Arg Val			
3631	1920	1925	1930	
3632				
3633	ACT GAT CTA GAT GCC AGG ATG AAT GAT GGT ACT ACA CCC CTG ATC CTG		5856	
3634	Thr Asp Leu Asp Ala Arg Met Asn Asp Gly Thr Thr Pro Leu Ile Leu			
3635	1935	1940	1945	
3636				
3637	GCT GCC CGC CTG GCT GTG GAG GGA ATG GTG GCA GAA CTG ATC AAC TGC		5904	
3638	Ala Ala Arg Leu Ala Val Glu Gly Met Val Ala Glu Leu Ile Asn Cys			
3639	1950	1955	1960	1965
3640				
3641	CAA GCG GAT GTG AAT GCA GTG GAT GAC CAT GGA AAA TCT GCT CTT CAC		5952	
3642	Gln Ala Asp Val Asn Ala Val Asp Asp His Gly Lys Ser Ala Leu His			
3643	1970	1975	1980	
3644				
3645	TGG GCA GCT GTC AAT AAT GTG GAG GCA ACT CTT TTG TTG TTG AAA		6000	
3646	Trp Ala Ala Val Asn Asn Val Glu Ala Thr Leu Leu Leu Lys			
3647	1985	1990	1995	
3648				
3649	AAT GGG GCC AAC CGA GAC ATG CAG GAC AAC AAG GAA GAG ACA CCT CTG		6048	
3650	Asn Gly Ala Asn Arg Asp Met Gln Asp Asn Lys Glu Glu Thr Pro Leu			
3651	2000	2005	2010	
3652				
3653	TTT CTT GCT GCC CGG GAG GGG AGC TAT GAA GCA GCC AAG ATC CTG TTA		6096	
3654	Phe Leu Ala Ala Arg Glu Gly Ser Tyr Glu Ala Ala Lys Ile Leu Leu			
3655	2015	2020	2025	
3656				
3657	GAC CAT TTT GCC AAT CGA GAC ATC ACA GAC CAT ATG GAT CGT CTT CCC		6144	
3658	Asp His Phe Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu Pro			
3659	2030	2035	2040	2045
3660				
3661	CGG GAT GTG GCT CGG GAT CGC ATG CAC CAT GAC ATT GTG CGC CTT CTG		6192	
3662	Arg Asp Val Ala Arg Asp Arg Met His His Asp Ile Val Arg Leu Leu			
3663	2050	2055	2060	
3664				
3665	GAT GAA TAC AAT GTG ACC CCA AGC CCT CCA GGC ACC GTG TTG ACT TCT		6240	
3666	Asp Glu Tyr Asn Val Thr Pro Ser Pro Pro Gly Thr Val Leu Thr Ser			
3667	2065	2070	2075	
3668				
3669	GCT CTC TCA CCT GTC ATC TGT GGG CCC AAC AGA TCT TTC CTC AGC CTG		6288	
3670	Ala Leu Ser Pro Val Ile Cys Gly Pro Asn Arg Ser Phe Leu Ser Leu			
3671	2080	2085	2090	
3672				

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:03:43

INPUT SET: S1376.raw

3673	AAG CAC ACC CCA ATG GGC AAG AAG TCT AGA CGG CCC AGT GCC AAG AGT	6336
3674	Lys His Thr Pro Met Gly Lys Lys Ser Arg Arg Pro Ser Ala Lys Ser	
3675	2095 2100 2105	
3676		
3677	ACC ATG CCT ACT AGC CTC CCT AAC CTT GCC AAG GAG GCA AAG GAT GCC	6384
3678	Thr Met Pro Thr Ser Leu Pro Asn Leu Ala Lys Glu Ala Lys Asp Ala	
3679	2110 2115 2120 2125	
3680		
3681	AAG GGT AGT AGG AGG AAG AAG TCT CTG AGT GAG AAG GTC CAA CTG TCT	6432
3682	Lys Gly Ser Arg Arg Lys Ser Leu Ser Glu Lys Val Gln Leu Ser	
3683	2130 2135 2140	
3684		
3685	GAG AGT TCA GTA ACT TTA TCC CCT GTT GAT TCC CTA GAA TCT CCT CAC	6480
3686	Glu Ser Ser Val Thr Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His	
3687	2145 2150 2155	
3688		
3689	ACG TAT GTT TCC GAC ACC ACA TCC TCT CCA ATG ATT ACA TCC CCT GGG	6528
3690	Thr Tyr Val Ser Asp Thr Thr Ser Ser Pro Met Ile Thr Ser Pro Gly	
3691	2160 2165 2170	
3692		
3693	ATC TTA CAG GCC TCA CCC AAC CCT ATG TTG GCC ACT GCC GCC CCT CCT	6576
3694	Ile Leu Gln Ala Ser Pro Asn Pro Met Leu Ala Thr Ala Ala Pro Pro	
3695	2175 2180 2185	
3696		
3697	GCC CCA GTC CAT GCC CAG CAT GCA CTA TCT TTT TCT AAC CTT CAT GAA	6624
3698	Ala Pro Val His Ala Gln His Ala Leu Ser Phe Ser Asn Leu His Glu	
3699	2190 2195 2200 2205	
3700		
3701	ATG CAG CCT TTG GCA CAT GGG GCC AGC ACT GTG CTT CCC TCA GTG AGC	6672
3702	Met Gln Pro Leu Ala His Gly Ala Ser Thr Val Leu Pro Ser Val Ser	
3703	2210 2215 2220	
3704		
3705	CAG TTG CTA TCC CAC CAC ATT GTG TCT CCA GGC AGT GGC AGT GCT	6720
3706	Gln Leu Leu Ser His His His Ile Val Ser Pro Gly Ser Gly Ser Ala	
3707	2225 2230 2235	
3708		
3709	GGA AGC TTG AGT AGG CTC CAT CCA GTC CCA GCA GAT TGG ATG	6768
3710	Gly Ser Leu Ser Arg Leu His Pro Val Pro Val Pro Ala Asp Trp Met	
3711	2240 2245 2250	
3712		
3713	AAC CGC ATG GAG GTG AAT GAG ACC CAG TAC AAT GAG ATG TTT GGT ATG	6816
3714	Asn Arg Met Glu Val Asn Glu Thr Gln Tyr Asn Glu Met Phe Gly Met	
3715	2255 2260 2265	
3716		
3717	GTC CTG GCT CCA GCT GAG GGC ACC CAT CCT GGC ATA GCT CCC CAG AGC	6864
3718	Val Leu Ala Pro Ala Glu Gly Thr His Pro Gly Ile Ala Pro Gln Ser	
3719	2270 2275 2280 2285	
3720		
3721	AGG CCA CCT GAA GGG AAG CAC ATA ACC ACC CCT CGG GAG CCC TTG CCC	6912
3722	Arg Pro Pro Glu Gly Lys His Ile Thr Thr Pro Arg Glu Pro Leu Pro	
3723	2290 2295 2300	

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590ADATE: 02/04/94
TIME: 12:03:50

INPUT SET: S1376.raw

3724				
3725	CCC ATT GTG ACT TTC CAG CTC ATC CCT AAA GGC AGT ATT GCC CAA CCA			6960
3726	Pro Ile Val Thr Phe Gln Leu Ile Pro Lys Gly Ser Ile Ala Gln Pro			
3727	2305	2310	2315	
3728				
3729	GCG GGG GCT CCC CAG CCT CAG TCC ACC TGC CCT CCA GCT GTT GCG GGC			7008
3730	Ala Gly Ala Pro Gln Pro Gln Ser Thr Cys Pro Pro Ala Val Ala Gly			
3731	2320	2325	2330	
3732				
3733	CCC CTG CCC ACC ATG TAC CAG ATT CCA GAA ATG GCC CGT TTG CCC AGT			7056
3734	Pro Leu Pro Thr Met Tyr Gln Ile Pro Glu Met Ala Arg Leu Pro Ser			
3735	2335	2340	2345	
3736				
3737	GTG GCT TTC CCC ACT GCC ATG ATG CCC CAG CAG GAC GGG CAG GTA GCT			7104
3738	Val Ala Phe Pro Thr Ala Met Met Pro Gln Gln Asp Gly Gln Val Ala			
3739	2350	2355	2360	2365
3740				
3741	CAG ACC ATT CTC CCA GCC TAT CAT CCT TTC CCA GCC TCT GTG GGC AAG			7152
3742	Gln Thr Ile Leu Pro Ala Tyr His Pro Phe Pro Ala Ser Val Gly Lys			
3743	2370	2375	2380	
3744				
3745	TAC CCC ACA CCC CCT TCA CAG CAC AGT TAT GCT TCC TCA AAT GCT GCT			7200
3746	Tyr Pro Thr Pro Pro Ser Gln His Ser Tyr Ala Ser Ser Asn Ala Ala			
3747	2385	2390	2395	
3748				
3749	GAG CGA ACA CCC AGT CAC AGT GGT CAC CTC CAG GGT GAG CAT CCC TAC			7248
3750	Glu Arg Thr Pro Ser His Ser Gly His Leu Gln Gly Glu His Pro Tyr			
3751	2400	2405	2410	
3752				
3753	CTG ACA CCA TCC CCA GAG TCT CCT GAC CAG TGG TCA AGT TCA TCA CCC			7296
3754	Leu Thr Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser Pro			
3755	2415	2420	2425	
3756				
3757	CAC TCT GCT TCT GAC TGG TCA GAT GTG ACC ACC AGC CCT ACC CCT GGG			7344
3758	His Ser Ala Ser Asp Trp Ser Asp Val Thr Thr Ser Pro Thr Pro Gly			
3759	2430	2435	2440	2445
3760				
3761	GGT GCT GGA GGA GGT CAG CGG GGA CCT GGG ACA CAC ATG TCT GAG CCA			7392
3762	Gly Ala Gly Gly Gln Arg Gly Pro Gly Thr His Met Ser Glu Pro			
3763	2450	2455	2460	
3764				
3765	CCA CAC AAC AAC ATG CAG GTT TAT GCG TGAGAGAGTC CACCTCCAGT			7439
3766	Pro His Asn Asn Met Gln Val Tyr Ala			
3767	2465	2470		
3768				
3769	GTAGAGACAT AACTGACTTT TGTAAATGCT GCTGAGGAAC AAATGAAGGT CATCCGGGAG			7499
3770				
3771	AGAAATGAAG AAATCTCTGG AGCCAGCTTC TAGAGGTAGG AAAGAGAAGA TGTTCTTATT			7559
3772				
3773	CAGATAATGC AAGAGAAGCA ATT CGTCAGT TTC ACTGGGT ATCTGCAAGG CTT ATTGATT			7619
3774				

INPUT SET: S1376.raw

3775	ATTCTAATCT AATAAGACAA GTTTGTGGAA ATGCAAGATG AATACAAGCC TTGGGTCCAT	7679
3776		
3777	GTTTACTCTC TTCTATTGAGAATAAGAT GGATGCTTAT TGAAGCCCAG ACATTCTTGC	7739
3778		
3779	AGCTTGGACT GCATTTAAG CCCTGCAGGC TTCTGCCATA TCCATGAGAA GATTCTACAC	7799
3780		
3781	TAGCGTCCTG TTGGGAATTA TGCCCTGGAA TTCTGCCCTGA ATTGACCTAC GCATCTCCCTC	7859
3782		
3783	CTCCTGGAC ATTCTTTGT CTTCATTTGG TGCTTTGGT TTTGCACCTC TCCGTGATTG	7919
3784		
3785	TAGCCCTACC AGCATGTTAT AGGGCAAGAC CTTTGTGCTT TTGATCATTG TGGCCCATGA	7979
3786		
3787	AAGCAACTTT GGTCTCCTTT CCCCTCCTGT CTTCCCGGTA TCCCTGGAG TCTCACAGG	8039
3788		
3789	TTTACTTTGG TATGGTTCTC AGCACAAACC TTTCAAGTAT GTTGTTCCTT TGGAAAATGG	8099
3790		
3791	ACATACTGTA TTGTGTTCTC CTGCATATAT CATTCCCTGGA GAGAGAAGGG GAGAAGAATA	8159
3792		
3793	CTTTCTTCA ACAAAATTG GGGGCAGGAG ATCCCTCAA GAGGCTGCAC CTTAATT	8219
3794		
3795	CTTGTCTGTG TGCAGGTCTT CATATAACT TTACCAAGGAA GAAGGGTGTG AGTTGTTGT	8279
3796		
3797	TTTCTGTGT ATGGGCCTGG TCAGTGTAAA GTTTTATCCT TGATAGTCTA GTTACTATGA	8339
3798		
3799	CCCTCCCCAC TTTTTAAAAA CCAGAAAAAG GTTGGAAATG TTGGAATGAC CAAGAGACAA	8399
3800		
3801	GTAACTCGT GCAAGAGCCA GTTACCCACC CACAGGTCCC CCTACTTCCT GCCAAGCATT	8459
3802		
3803	CCATTGACTG CCTGTATGGA ACACATTGT CCCAGATCTG AGCATTCTAG GCCTGTTCA	8519
3804		
3805	CTCACTCACC CAGCATATGA AACTAGTCTT AACTGTTGAG CCTTCCTTT CATATCCACA	8579
3806		
3807	GAAGACACTG TCTCAAATGT TGTACCCCTG CCATTTAGGA CTGAACTTTC CTTAGCCCAA	8639
3808		
3809	GGGACCCAGT GACAGTTGTC TTCCGTTGT CAGATGATCA GTCTCTACTG ATTATCTTGC	8699
3810		
3811	TGCTTAAAGG CCTGCTCACC AATCTTCTT TCACACCGTG TGGCCGTGT TACTGGTATA	8759
3812		
3813	CCCAGTATGT TCTCACTGAA GACATGGACT TTATATGTT AAGTGCAGGA ATTGGAAAGT	8819
3814		
3815	TGGACTTGT TTCTATGATC CAAACAGCC CTATAAGAAG GTTGGAAAAG GAGGAACAT	8879
3816		
3817	ATAGCAGCCT TTGCTATTTT CTGCTACCAT TTCTTTCCCT CTGAAGCGGC CATGACATTC	8939
3818		
3819	CCTTGGCAA CTAACGTAGA AACTAACAG AACATTTCC TTTCCTAGAG TCACCTTTA	8999
3820		
3821	GATGATAATG GACAACATA GACTTGCTCA TTGTTCAGAC TGATTGCCCT TCACCTGAAT	9059
3822		
3823	CCACTCTCTG TATTGATGCT CTTGGCAATT TCTTTGACTT TCTTTAAGG GCAGAACAT	9119
3824		
3825	TTTAGTTAAT TGTAGATAAA GAATAGTTT CTTCCCTCTTC TCCTTGGGCC AGTTAATAAT	9179

INPUT SET: S1376.raw

3826		
3827	TGGTCCATGG CTACACTGCA ACTTCCGTCC AGTGCTGTGA TGCCCATGAC ACCTGCAAAA	9239
3828		
3829	TAAGTTCTGC CTGGGCATTT TGTAGATATT AACAGGTGAA TTCCCGACTC TTTTGGTTTG	9299
3830		
3831	AATGACAGTT CTCATTCCTT CTATGGCTGC AAGTATGCAT CAGTGCTTCC CACTTACCTG	9359
3832		
3833	ATTTGTCTGT CGGTGGCCCC ATATGGAAAC CCTGCGTGTC TGTTGGCATA ATAGTTTACA	9419
3834		
3835	AATGGTTTT TCAGTCCTAT CCAAATTTAT TGAACCAACA AAAATAATTA CTTCTGCCCT	9479
3836		
3837	GAGATAAGCA GATTAAGTTT GTTCATTCTC TGCTTTATTTC TCTCCATGTG GCAACATTCT	9539
3838		
3839	GTCAGCCTCT TTCATAGTGT GCAAACATTT TATCATTCTA AATGGTGACT CTCTGCCCTT	9599
3840		
3841	GGACCCATTT ATTATTCACA GATGGGGAGA ACCTATCTGC ATGGACCCCTC ACCATCCTCT	9659
3842		
3843	GTGCAGCACA CACAGTGCAG GGAGCCAGTG GCGATGGCGA TGACTTTCTT CCCCTGGAA	9719
3844		
3845	TTCC	9723
3846		
3847		

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SEQUENCE VERIFICATION REPORT
PATENT APPLICATION *US/08/083,590A*

DATE: 02/04/94
TIME: 12:04:06

INPUT SET: S1376.raw

Line

Error

Original Text

PAGE: 1

SEQUENCE MISSING ITEM REPORT
PATENT APPLICATION **US/08/083,590A**

DATE: 02/04/94
TIME: 12:04:06

INPUT SET: S1376.raw

APPLICATION NUMBER
FILING DATE
PRIOR APPLICATION DATA

PAGE: 1

SEQUENCE CORRECTION REPORT
PATENT APPLICATION **US/08/083,590A**

DATE: 02/04/94
TIME: 12:04:08

INPUT SET: SI376.raw

Line

Original Text

Corrected Text